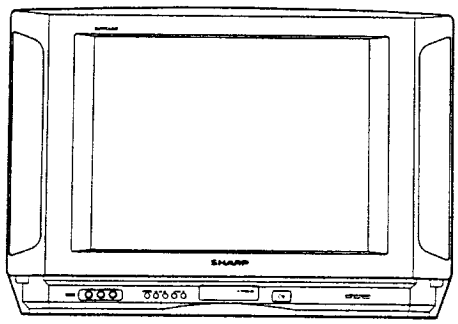
SHARP SERVICE MANUAL
维修手册

S94D721FN1///



COLOUR TELEVISION
彩色电视机
Chassis No. SP-41

MODEL 型号 21FN1

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

为了用户安全起见(根据一些国家的安全规程的需要)，应将电视机保持于最初的状态，而且只能使用与指定物相同的部件。

FEATURE

- One Chip Microprocessor Voltage Synthesizer System
  - 49 Channels Programming System
  - Channel Skip Preset System
  - Last (Channel / Volume / Power / User's Control / Fine Tuning) Memory System
- Full Auto Search Tuning System
- CATV (Hyper Band) Ready
- 21 Systems World wide compatibility
- Wide Range Chopper Regulator System
- Fine Tuning Adjustable with Remote Control
- AV Input/Output Terminal (Front & Rear)
- Blue Back
- Direct Access Remote Control

主要功能

- 单片微电脑电压合成器系统
  - 49频道编程系统
  - 频道跳选设定系统
  - 最终(频道/音量/电源/用户控制/微调)记忆系统
- 全自动寻台调谐系统
- 有线闭路电路可并路状态
- 21制式国际线路兼容
- 广域斩波调节器系统
- 可用遥控器控制的微调功能
- 声象信号输入/输出插孔(前后)
- 蓝色背景功能
- 遥控器直接存取功能

WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis. To prevent electric shock, do not remove cover. No user — serviceable parts inside. Refer servicing to qualified service personnel.

警　告

该电视机底盘的有些部分通电。当维修本机底盘时，请在电源线插头和电源插座之间使用隔离变压器。
为了防止电击的危险，不要去拆下机盖。在里面的部件，不是使用者所能维修的，必须委托够格的维修人员来进行维修。

SHARP CORPORATION

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SPECIFICATIONS

Convergence ..... Self Converging System
Focus ..... Quadra-Potential Electrostatic
Sweep Deflection ..... Magnetic
Intermediate Frequencies
  Picture IF Frequency 38.9MHz
  Sound IF Carrier Frequency
    6.5 MHz ..... 32.4 MHz
    6.0 MHz ..... 32.9 MHz
    5.5 MHz ..... 33.4 MHz
    4.5 MHz ..... 34.4 MHz
  Colour Sub-Carrier Frequency
    PAL/NTSC ..... 34.47 MHz
    SECAM ..... 34.494/34.65 MHz
    NTSC ..... 35.32 MHz
Power Input ..... 110 — 240V AC 50/60Hz
Power Consumption 102W
Audio Power Output Rating ..... 4.0W + 4.0W (at RMS)
Speaker
  Size ..... 10 cm(Round) × 2 pcs.
  Voice Coil Impedance ..... 16 ohms at 400Hz
Aerial Input Impedance
  VHF/UHF ..... 75 ohm Unbalanced
Receiving Channels
  PAL-B/G, SECAM-B/G
    VHF ..... E2 thru E12
    UHF ..... 21 thru C57
    CATV ..... S1 thru S53,
      M1 thru M10,
      S4 thru S41
  PAL-D/K, SECAM-D/K
    VHF ..... R1 thru R12
    UHF ..... 21 thru C57
  PAL-I
    VHF ..... (IRELAND): B thru J
    UHF ..... (U.K, H.K): 21 thru C57
  NTSC-M
    VHF ..... (US): 2 thru 13
      (JAPAN): 1 thru 12
    UHF ..... (US): 14 thru 79
      (JAPAN): 13 thru 62
  CATV ..... A-8 thru A-1,
    A thru W
Receiving Frequency
  VHF ..... 48.25 MHz thru 463.25 MHz
  UHF ..... 471.25 MHz thru 863.25 MHz
Dimensions
  Width ..... 676.0 mm
  Height ..... 458.5 mm
  Depth ..... 478.0 mm
Weight (approx.) ..... 24.0 kg
Cabinet Material ..... All Plastics

Specifications are subject to change without prior notice.

规格

焦点……平方电位静电焦点
聚焦……自聚焦系统
扫描偏转……磁致偏转
中频
  图象中频载波频率……38.9MHz
  声音中频载波频率
    6.5MHz……32.4MHz
    6.0MHz……32.9MHz
    5.5MHz……33.4MHz
    4.5MHz……34.4MHz
  色彩副载波频率
    PAL/NTSC制式…… 34.47MHz
    SECAM制式…… 34.494/34.65MHz
    NTSC制式…… 35.32MHz
电源…… 交流110～240V、50/60Hz
功率消耗…… 102W
音响额定输出功率…… 4.0W＋4.0W（均方根值）

扬声器
  尺寸…… 10cm圆型×2只
  音圈阻抗……16Ω(400Hz时)
天线输入阻抗
  甚高频(VHF)/超高频(UHF)……75Ω非平衡式
接收频道
  PAL-B/G、SECAM-B/G制式
  甚高频(VHF)…… E2～E12频道
  超高频(UHF)…… 21～C57频道
  有线电视(CATV)……S1～S53频道
    M1～M10频道
    S4～S41频道
PAL-D/K、SECAM-D/K制式
  甚高频(VHF)…… R1～R12频道
  超高频(UHF) ……21～C57频道
PAL-I制式
  甚高频(VHF)……（爱尔兰）：B～J频道
  超高频(UHF)…… （英国，香港）：21～C57频道
NTSC-M制式
  甚高频(VHF)……(美国）：2～13频道
    （日本）：1～12频道
  超高频(UHF)…… （美国）：14～79频道
    （日本）：13～62频道
  有线电视(CATV)…… A-8～A-1频道
    A～W频道
接收频率
  甚高频(VHF)…… 48.25MHz～463.25MHz
  超高频(UHF)……471.25MHz～863.25MHz
尺寸
  宽……676.0mm
  高……458.5mm
  深……478.0mm
重量（大约） …… 24.0kg
机壳…… 均由塑料而成

上述规格变更之场合，恕不另行通知

IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by connecting a 10 k ohm Resistor in series with an insulated wire (such as a test probe) between picture tube dag and 2nd anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.

X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

1. When repairing the circuit, be sure not to increase the high voltage to more than 29.0 kV, (at beam 0 μA) for the set.
2. To keep the set in a normal operation, be sure to make it function on 24.8 kV ± 1.5 kV (at beam 1100 μA) in the case of the set. The set has been factory — Adjusted to the above-mentioned high voltage.
   ∴ If there is a possibility that the high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.
3. Do not substitute a picture tube with unauthorized types and/or brands which may cause excess X-ray radiation.

BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators etc.

保养维修重要注意事项

本电视机的保养只得由专门技术人员进行。

关于高压系统和显象管的保养维修

对高压系统进行保养维修时，先于显象管管座金属部分与第二阳极引线间用绝缘线（诸如测试探针等）串接一只10KΩ的电阻器，以除去残留于高压系统中的静电。（之前，应从电源插座中拔出本机的电源引线插头。）

1. 本电视机显象管为整体内爆防护设计。
2. 为保证本电视机持久使用的安全，显象管的更换必须使用同型号者 。
3. 搬移显象管时，不得倒持其颈部上提。
4. 拆装搬移显象管，必须先用布物等包护荧屏防碎玻璃，并且作完全放电处理后才能进行。

关于X射线

本电视机为无辐射射设计。因此，任何X射线均设计控制于最小绝对极限。然而，在发生故障或保养维修时，过长时间地暴露机芯内部加以放置之场合，便有可能在其近旁产生有害的X射线辐射影响。为此，务请遵循下述预防措施：

1. 维修调整本电视机内部电路时，切勿让其高压超过29.0kV（电子束电流为0μA时）。
2. 为保证本电视机的正常工作，务必保证其高压为24.8kV±1.5kV（电子束电流为1100μA时）的工作条件。该工作条件值在本电视机出厂前已经调试验收。
   ※本电视机一旦经维修调整，可能导致上述工作高压规定值发生偏动。因此，维修调整完毕，务请重新对其高压值进行确认检查。
3. 更换显象管时，不得使用非经认可的、不同厂家、不同型号的显象管，以免产生超过规定标准的X射线辐射的危险。

维修后归还之前

在把维修后的电视机归还给用户之前，务请进行下列的安全检查。

1. 检查电视机中的所有导线的绝缘包皮有无扭折破损之处，于机芯底板和其它金属部件之间有无他物夹杂。
2. 检查电视机中的所有非金属质的控制旋钮、绝缘鱼鳞纸，机壳后盖、调节器和仪器隔室盖罩或屏蔽，电阻—电容隔离网以及机械部件隔离器等保护绝缘装置、器材。

ADJUSTMENT PRECAUTIONS

This model's settings are adjusted in two different ways: through the I²C bus control and in the conventional analog manner. The adjustments via the I²C bus control include preset-only items and variable data.

1) Calling the service mode by the microprocessor

① Set the switch S1006 to the service mode position, and the microprocessor is put in the service mode (adjustment through the I²C bus control).
② Press the S-MODE key on the remote controller to get ready to select the modes one by one.
③ Press the S-NORM key on the remote controller to get ready to select the modes in the order opposite to the above step (2). **(See SERVICE MODE)**
④ Using the Λ and V keys on the remote controller, the data can be modified.
⑤ Set the switch S1006 to the normal mode (OFF) position, and the microprocessor is put out of the service mode.

2) Factory presettings (EEPROM initialization)

① In the service mode, make a connection between TP1001 (pin (35) of IC1001) and +B with a 10k ohm resistor in between. Now the initial preset data are written into the EEPROM.

调整时注意事项

本型号电视机由I^2C总线控制与一般的模拟调节综合进行。I^2C总线控制包括初始设定（预设）以及下述的变量数据项目的调整设定。

1)微处理机的服务状态的设定

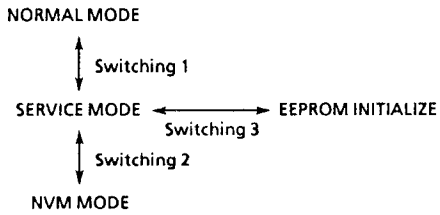
①变S1006开关于服务状态位置，微处理机即处于服务状态(I^2C总线控制调整状态)。
②触按遥控器上的S-MODE键以顺序选择各种调整状态。
③触按遥控器上的S-NORM键，可按与步骤②相反顺序选择各种调整状态（见服务状态之项）
④触按遥控器上的Λ · V键，可变换调整数据。
⑤取消服务状态时，变S1006开关（关闭侧）于正常状态位置即可。

2)初始值（预设值）的设定(E^2PROM初始状态)

①在服务状态下，通过10kΩ电阻器接TP1001(IC1001的销35)于+B，即自动地设定初始值于E^2PROM。

SERVICE MODE

(1) Mode switching

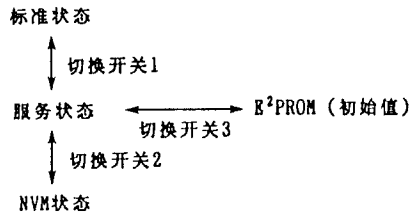


Switching 1 : NORMAL mode ⇔ SERVICE mode ; "H" ⇔ "L" (at pin (37))
Switching 2 : SERVICE mode ⇔ NVM mode ; "H" ⇔ "L" (at pin (17))
Switching 3 : EEPROM initialize ; "L" ⇔ "H" (at pin (35))

* The initialization is made just once when the signal at pin (35) rises from "L" to "H".
* The initialization is possible only once when the main power is turned on. To initialize again, turn the main power off and then on again.

服务状态

(1)设定状态的切换

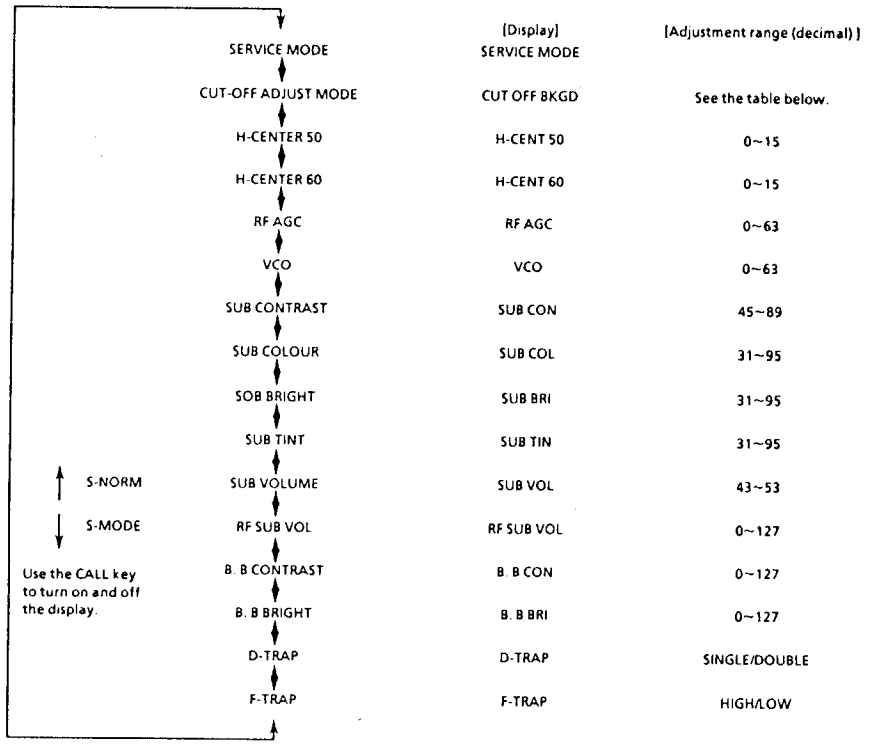


切换开关1：标准状态 ⇔ 服务状态…“H（高）”⇔“L（低）”（销(37)）
切换开关2：服务状态 ⇔ NVM状态…“H（高）”⇔“L（低）”（销(17)）
切换开关3：E²PROM(初始值)…“L（低）”⇔“H（高）”（销(35)）

* 只在销(35)前沿处作一次。
* 每次打开主电源开关时，只可作一次。再作一次时，先关断主电源开关，然后再打开主电源开关而进行。

(2) SERVICE mode

a) In the SERVICE mode, the S-MODE and S-NORM keys are used to select the following adjustment items.



b) CUT-OFF ADJUST mode

Adjustment item	Data up	Data down	Adjustment range
R-CUT OFF	Key 1	Key 4	0~255
G-CUT OFF	Key 2	Key 5	0~255
B-CUT OFF	Key 3	Key 6	0~255
R-DRIVE	Key 7	Key F/B	0~63
B-DRIVE	Key 8	Key 0	0~63
HORIZONTAL CENTERING	Key 9		---

In the CUT-OFF ADJUST mode (for all the adjustments other than the horizontal centering), the contrast and brightness are adjusted as follows.

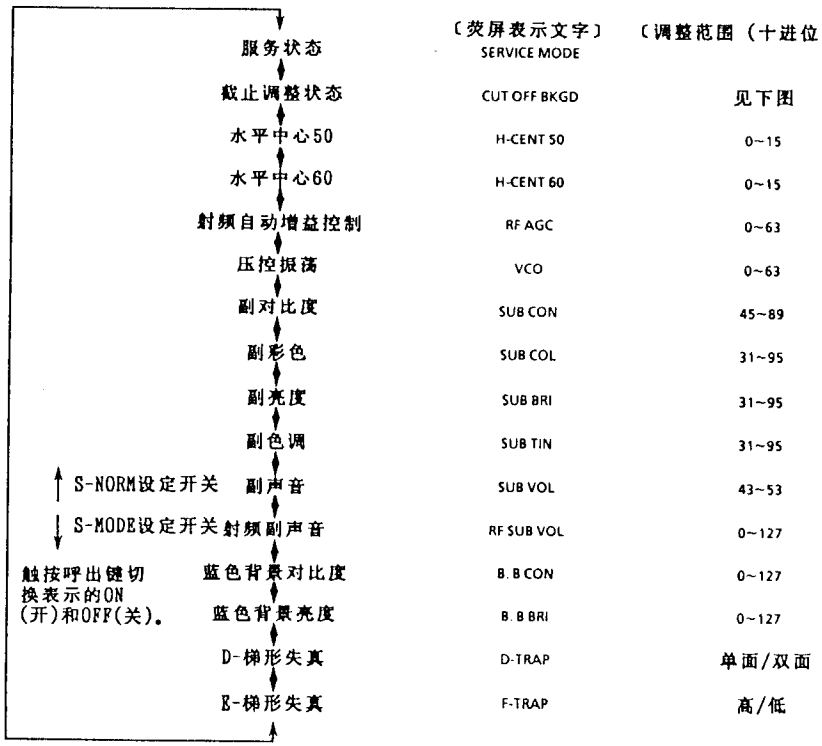
Key	CONTRAST	BRIGHT
10 +	1/64	32/64
20 +	64/64	32/64
30 +	64/64	64/64

c) Other adjustment modes

The data settings can be turned up and down using the [∧] / [∨] (DAC UP/DOWN) keys.

(2)服务状态的动作

a)设定服务状态后，触按S-MODE键或S-NORM键切换如下：



b)截止调整状态

调整项目	数据上移	数据下移	调整范围
红色截止	1键	4键	0~255
绿色截止	2键	5键	0~255
蓝色截止	3键	6键	0~255
红色激励	7键	F/B键	0~63
蓝色激励	8键	0键	0~63
水平中心状态	9键		---

在非水平中心的截止调整状态时，必须设对比度和亮度于下表所示的规定位置。

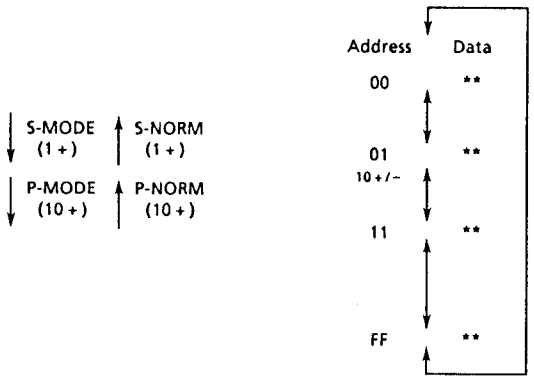
键钮	对比度	亮度
10 +	1/64	32/64
20 +	64/64	32/64
30 +	64/64	64/64

C)除此以外的调整状态

触按 [∧] / [∨] (DAC上移/下移)键进行数据的上移和下移。

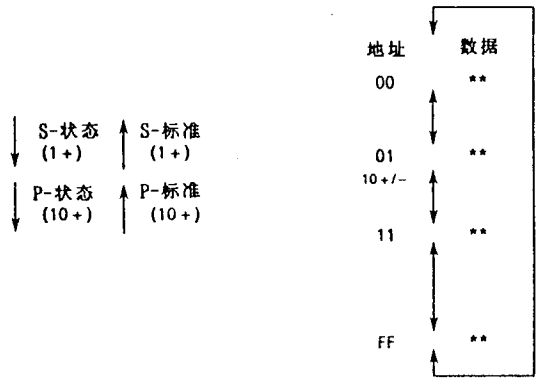
(3) NVM mode

a) The NVM mode is introduced at switching 2.
b) The following addresses are searched as follows. At a desired address, use the [∧]/[∨] (DAC UP/DOWN) keys to turn up and down the data.



(3)NVM设定状态

a)通过切换开关2设定NVM状态。
b)地址代码的变动次序如下：设定所需地址代码后，触按[∧]/[∨](DAC上移/下移)键进行地址数据的上移和下移。



(4) EEPROM MAP

Sub-address	DATA 7	6	5	4	3	2	1	0	Remarks	Judgment without range	Factory presetting/ EEPROM initialization
00	Vt data : Lower 6 bits							BAND	CH0	Set the band data to 00: VHF-L, 01: VHF-H or 10: UHF. 11 is for VHF-1 out of the range.	None
01	Vt data : Upper 8 bits										
02	Vt data : Lower 6 bits							BAND	CH1		
03	Vt data : Upper 8 bits										
04	Vt data : Lower 6 bits							BAND	CH2		
05	Vt data : Upper 8 bits										
06	Vt data : Lower 6 bits							BAND	CH3		
07	Vt data : Upper 8 bits										
08	Vt data : Lower 6 bits							BAND	CH4		
09	Vt data : Upper 8 bits										
0A	Vt data : Lower 6 bits							BAND	CH5		
0B	Vt data : Upper 8 bits										
0C	Vt data : Lower 6 bits							BAND	CH6		
0D	Vt data : Upper 8 bits										
0E	Vt data : Lower 6 bits							BAND	CH7		
0F	Vt data : Upper 8 bits										
10	Vt data : Lower 6 bits							BAND	CH8		
11	Vt data : Upper 8 bits										
12	Vt data : Lower 6 bits							BAND	CH9		
13	Vt data : Upper 8 bits										
14	Vt data : Lower 6 bits							BAND	CH10		
15	Vt data : Upper 8 bits										
16	Vt data : Lower 6 bits							BAND	CH11		
17	Vt data : Upper 8 bits										
18	Vt data : Lower 6 bits							BAND	CH12		
19	Vt data : Upper 8 bits										
1A	Vt data : Lower 6 bits							BAND	CH13		
1B	Vt data : Upper 8 bits										
1C	Vt data : Lower 6 bits							BAND	CH14		
1D	Vt data : Upper 8 bits										
1E	Vt data : Lower 6 bits							BAND	CH15		
1F	Vt data : Upper 8 bits										
20	Vt data : Lower 6 bits							BAND	CH16		
21	Vt data : Upper 8 bits										
22	Vt data : Lower 6 bits							BAND	CH17		
23	Vt data : Upper 8 bits										
24	Vt data : Lower 6 bits							BAND	CH18		
25	Vt data : Upper 8 bits										
26	Vt data : Lower 6 bits							BAND	CH19		
27	Vt data : Upper 8 bits										
28	Vt data : Lower 6 bits							BAND	CH20		
29	Vt data : Upper 8 bits										
2A	Vt data : Lower 6 bits							BAND	CH21		
2B	Vt data : Upper 8 bits										
2C	Vt data : Lower 6 bits							BAND	CH22		
2D	Vt data : Upper 8 bits										
2E	Vt data : Lower 6 bits							BAND	CH23		
2F	Vt data : Upper 8 bits										

(4) E^2PROM一览表

子地址	数据 7	6	5	4	3	2	1	0	备注	范围外的判断	出厂前预设/ E^2PROM初始值
00	Vt数据：下6位数							频带	CH0	设频带数据于 00:VHF-L, 01:VHF-H或 10:UHF。 11为范围外的数据而作为 VHF-1。	无
01	Vt数据：上8位数										
02	Vt数据：下6位数							频带	CH1		
03	Vt数据：上8位数										
04	Vt数据：下6位数							频带	CH2		
05	Vt数据：上8位数										
06	Vt数据：下6位数							频带	CH3		
07	Vt数据：上8位数										
08	Vt数据：下6位数							频带	CH4		
09	Vt数据：上8位数										
0A	Vt数据：下6位数							频带	CH5		
0B	Vt数据：上8位数										
0C	Vt数据：下6位数							频带	CH6		
0D	Vt数据：上8位数										
0E	Vt数据：下6位数							频带	CH7		
0F	Vt数据：上8位数										
10	Vt数据：下6位数							频带	CH8		
11	Vt数据：上8位数										
12	Vt数据：下6位数							频带	CH9		
13	Vt数据：上8位数										
14	Vt数据：下6位数							频带	CH10		
15	Vt数据：上8位数										
16	Vt数据：下6位数							频带	CH11		
17	Vt数据：上8位数										
18	Vt数据：下6位数							频带	CH12		
19	Vt数据：上8位数										
1A	Vt数据：下6位数							频带	CH13		
1B	Vt数据：上8位数										
1C	Vt数据：下6位数							频带	CH14		
1D	Vt数据：上8位数										
1E	Vt数据：下6位数							频带	CH15		
1F	Vt数据：上8位数										
20	Vt数据：下6位数							频带	CH16		
21	Vt数据：上8位数										
22	Vt数据：下6位数							频带	CH17		
23	Vt数据：上8位数										
24	Vt数据：下6位数							频带	CH18		
25	Vt数据：上8位数										
26	Vt数据：下6位数							频带	CH19		
27	Vt数据：上8位数										
28	Vt数据：下6位数							频带	CH20		
29	Vt数据：上8位数										
2A	Vt数据：下6位数							频带	CH21		
2B	Vt数据：上8位数										
2C	Vt数据：下6位数							频带	CH22		
2D	Vt数据：上8位数										
2E	Vt数据：下6位数							频带	CH23		
2F	Vt数据：上8位数										

Sub-address	DATA 7	6	5	4	3	2	1	0	Remarks	Judment without range	Factory presetting/ EEPROM initialization
30	Vt data : Lower 6 bits							BAND	CH24	Set the band data to 00: VHF-L, 01: VHF-H or 10: UHF. 11 is for VHF-1 out of the range.	None
31	Vt data : Upper 8 bits										
32	Vt data : Lower 6 bits							BAND	CH25		
33	Vt data : Upper 8 bits										
34	Vt data : Lower 6 bits							BAND	CH26		
35	Vt data : Upper 8 bits										
36	Vt data : Lower 6 bits							BAND	CH27		
37	Vt data : Upper 8 bits										
38	Vt data : Lower 6 bits							BAND	CH28		
39	Vt data : Upper 8 bits										
3A	Vt data : Lower 6 bits							BAND	CH29		
3B	Vt data : Upper 8 bits										
3C	Vt data : Lower 6 bits							BAND	CH30		
3D	Vt data : Upper 8 bits										
3E	Vt data : Lower 6 bits							BAND	CH31		
3F	Vt data : Upper 8 bits										
40	Vt data : Lower 6 bits							BAND	CH32		
41	Vt data : Upper 8 bits										
42	Vt data : Lower 6 bits							BAND	CH33		
43	Vt data : Upper 8 bits										
44	Vt data : Lower 6 bits							BAND	CH34		
45	Vt data : Upper 8 bits										
46	Vt data : Lower 6 bits							BAND	CH35		
47	Vt data : Upper 8 bits										
48	Vt data : Lower 6 bits							BAND	CH36		
49	Vt data : Upper 8 bits										
4A	Vt data : Lower 6 bits							BAND	CH37		
4B	Vt data : Upper 8 bits										
4C	Vt data : Lower 6 bits							BAND	CH38		
4D	Vt data : Upper 8 bits										
4E	Vt data : Lower 6 bits							BAND	CH39		
4F	Vt data : Upper 8 bits										
50	Vt data : Lower 6 bits							BAND	CH40		
51	Vt data : Upper 8 bits										
52	Vt data : Lower 6 bits							BAND	CH41		
53	Vt data : Upper 8 bits										
54	Vt data : Lower 6 bits							BAND	CH42		
55	Vt data : Upper 8 bits										
56	Vt data : Lower 6 bits							BAND	CH43		
57	Vt data : Upper 8 bits										
58	Vt data : Lower 6 bits							BAND	CH44		
59	Vt data : Upper 8 bits										
5A	Vt data : Lower 6 bits							BAND	CH45		
5B	Vt data : Upper 8 bits										
5C	Vt data : Lower 6 bits							BAND	CH46		
5D	Vt data : Upper 8 bits										
5E	Vt data : Lower 6 bits							BAND	CH47		
5F	Vt data : Upper 8 bits										

E10

子地址	数据 7	6	5	4	3	2	1	0	备注	范围外的判断	出厂前预设/ E^2PROM初始值
30	Vt数据：下6位数							频带	CH24	设频带数据于 00:VHF-L, 01:VHF-H或 10:UHF。 11为范围外的数据而作为 VHF-1。	无
31	Vt数据：上8位数										
32	Vt数据：下6位数							频带	CH25		
33	Vt数据：上8位数										
34	Vt数据：下6位数							频带	CH26		
35	Vt数据：上8位数										
36	Vt数据：下6位数							频带	CH27		
37	Vt数据：上8位数										
38	Vt数据：下6位数							频带	CH28		
39	Vt数据：上8位数										
3A	Vt数据：下6位数							频带	CH29		
3B	Vt数据：上8位数										
3C	Vt数据：下6位数							频带	CH30		
3D	Vt数据：上8位数										
3E	Vt数据：下6位数							频带	CH31		
3F	Vt数据：上8位数										
40	Vt数据：下6位数							频带	CH32		
41	Vt数据：上8位数										
42	Vt数据：下6位数							频带	CH33		
43	Vt数据：上8位数										
44	Vt数据：下6位数							频带	CH34		
45	Vt数据：上8位数										
46	Vt数据：下6位数							频带	CH35		
47	Vt数据：上8位数										
48	Vt数据：下6位数							频带	CH36		
49	Vt数据：上8位数										
4A	Vt数据：下6位数							频带	CH37		
4B	Vt数据：上8位数										
4C	Vt数据：下6位数							频带	CH38		
4D	Vt数据：上8位数										
4E	Vt数据：下6位数							频带	CH39		
4F	Vt数据：上8位数										
50	Vt数据：下6位数							频带	CH40		
51	Vt数据：上8位数										
52	Vt数据：下6位数							频带	CH41		
53	Vt数据：上8位数										
54	Vt数据：下6位数							频带	CH42		
55	Vt数据：上8位数										
56	Vt数据：下6位数							频带	CH43		
57	Vt数据：上8位数										
58	Vt数据：下6位数							频带	CH44		
59	Vt数据：上8位数										
5A	Vt数据：下6位数							频带	CH45		
5B	Vt数据：上8位数										
5C	Vt数据：下6位数							频带	CH46		
5D	Vt数据：上8位数										
5E	Vt数据：下6位数							频带	CH47		
5F	Vt数据：上8位数										

C10

Sub-address	DATA 7	6	5	4	3	2	1	0	Remarks	Judment without range	Factory presetting/ EEPROM initialization
60	Vt data : Lower 6 bits							BAND	CH48		
61	Vt data : Upper 8 bits										
62	Vt data : Lower 6 bits							BAND	CH49		
63	Vt data : Upper 8 bits										
64	SKIP ON/OFF								CH 7-CH 0	Firstly resetting, secondly collective reading, thirdly skipping: Out of the range.	All channels: SKIP-OFF
65	SKIP ON/OFF								CH15-CH 8		
66	SKIP ON/OFF								CH23-CH16		
67	SKIP ON/OFF								CH31-CH24		
68	SKIP ON/OFF								CH39-CH32		
69	SKIP ON/OFF								CH47-CH40		
6A	SKIP ON/OFF								CH49, CH48		
6B	AFT ON/OFF								CH 7-CH 0	None	All channels: AFT-ON
6C	AFT ON/OFF								CH15-CH 8		
6D	AFT ON/OFF								CH23-CH16		
6E	AFT ON/OFF								CH31-CH24		
6F	AFT ON/OFF								CH39-CH32		
70	AFT ON/OFF								CH47-CH40		
71	AFT ON/OFF								CH49, CH48		
72	COLOUR SYSTEM			COLOUR SYSTEM					CH 1, CH 0	Others than 000: AUTO, 001: PAL, 010: SECAM, 011: N443 and 100: N358.	All channels: 000: AUTO
73	COLOUR SYSTEM			COLOUR SYSTEM					CH 3, CH 2		
74	COLOUR SYSTEM			COLOUR SYSTEM					CH 5, CH 4		
75	COLOUR SYSTEM			COLOUR SYSTEM					CH 7, CH 6		
76	COLOUR SYSTEM			COLOUR SYSTEM					CH 9, CH 8		
77	COLOUR SYSTEM			COLOUR SYSTEM					CH11, CH10		
78	COLOUR SYSTEM			COLOUR SYSTEM					CH13, CH12		
79	COLOUR SYSTEM			COLOUR SYSTEM					CH15, CH14		
7A	COLOUR SYSTEM			COLOUR SYSTEM					CH17, CH16		
7B	COLOUR SYSTEM			COLOUR SYSTEM					CH19, CH18		
7C	COLOUR SYSTEM			COLOUR SYSTEM					CH21, CH20		
7D	COLOUR SYSTEM			COLOUR SYSTEM					CH23, CH22		
7E	COLOUR SYSTEM			COLOUR SYSTEM					CH25, CH24		
7F	COLOUR SYSTEM			COLOUR SYSTEM					CH27, CH26		
80	COLOUR SYSTEM			COLOUR SYSTEM					CH29, CH28		
81	COLOUR SYSTEM			COLOUR SYSTEM					CH31, CH30		
82	COLOUR SYSTEM			COLOUR SYSTEM					CH33, CH32		
83	COLOUR SYSTEM			COLOUR SYSTEM					CH35, CH34		
84	COLOUR SYSTEM			COLOUR SYSTEM					CH37, CH36		
85	COLOUR SYSTEM			COLOUR SYSTEM					CH39, CH38		
86	COLOUR SYSTEM			COLOUR SYSTEM					CH41, CH40		
87	COLOUR SYSTEM			COLOUR SYSTEM					CH43, CH42		
88	COLOUR SYSTEM			COLOUR SYSTEM					CH45, CH44		
89	COLOUR SYSTEM			COLOUR SYSTEM					CH47, CH46		
8A	COLOUR SYSTEM			COLOUR SYSTEM					CH49, CH48		
8B	LAST POWER									$A5:OFF/ $5A:ON	POWER-ON
8C	LAST AV, CH									Over 50	TV, 1ch
8D	LAST CONTRAST									Over 64	63
8E	LAST COLOUR									Over 64	31
8F	LAST BRIGHT									Over 64	31

E11

子地址	数据 7	6	5	4	3	2	1	0	备注	范围外的判断	出厂前预设/ E^2PROM初始值
60	Vt数据：下6位数							频带	CH48		
61	Vt数据：上8位数										
62	Vt数据：下6位数							频带	CH49		
63	Vt数据：上8位数										
64	频道跳跃 开/关								CH 7-CH 0	取消复位状态的设定后，汇总读出所有数据。若全数据为频道跳跃状态，即作为范围外而处理。	全频道：频道跳跃—关
65	频道跳跃 开/关								CH15-CH 8		
66	频道跳跃 开/关								CH23-CH16		
67	频道跳跃 开/关								CH31-CH24		
68	频道跳跃 开/关								CH39-CH32		
69	频道跳跃 开/关								CH47-CH40		
6A	频道跳跃 开/关								CH49, CH48		
6B	自动微调 开/关								CH 7-CH 0	无	全频道：自动微调—开
6C	自动微调 开/关								CH15-CH 8		
6D	自动微调 开/关								CH23-CH16		
6E	自动微调 开/关								CH31-CH24		
6F	自动微调 开/关								CH39-CH32		
70	自动微调 开/关								CH47-CH40		
71	自动微调 开/关								CH49, CH48		
72	彩色制式			彩色制式					CH 1, CH 0	除下记以外均为范围外： 000:自动 001:PAL制式 0.10:SECAM制式 011:N443制式 或者 100:N358制式	全频道： 000:自动
73	彩色制式			彩色制式					CH 3, CH 2		
74	彩色制式			彩色制式					CH 5, CH 4		
75	彩色制式			彩色制式					CH 7, CH 6		
76	彩色制式			彩色制式					CH 9, CH 8		
77	彩色制式			彩色制式					CH11, CH10		
78	彩色制式			彩色制式					CH13, CH12		
79	彩色制式			彩色制式					CH15, CH14		
7A	彩色制式			彩色制式					CH17, CH16		
7B	彩色制式			彩色制式					CH19, CH18		
7C	彩色制式			彩色制式					CH21, CH20		
7D	彩色制式			彩色制式					CH23, CH22		
7E	彩色制式			彩色制式					CH25, CH24		
7F	彩色制式			彩色制式					CH27, CH26		
80	彩色制式			彩色制式					CH29, CH28		
81	彩色制式			彩色制式					CH31, CH30		
82	彩色制式			彩色制式					CH33, CH32		
83	彩色制式			彩色制式					CH35, CH34		
84	彩色制式			彩色制式					CH37, CH36		
85	彩色制式			彩色制式					CH39, CH38		
86	彩色制式			彩色制式					CH41, CH40		
87	彩色制式			彩色制式					CH43, CH42		
88	彩色制式			彩色制式					CH45, CH44		
89	彩色制式			彩色制式					CH47, CH46		
8A	彩色制式			彩色制式					CH49, CH48		
8B	最后设定电源位置									$A5:关/ $5A:开/	电源—开
8C	最后设定声象频道位置									大于50	电视，1频道
8D	最后设定对比度位置									大于64	63
8E	最后设定彩色位置									大于64	31
8F	最后设定亮度位置									大于64	31

C11

Sub-address	DATA 7	6	5	4	3	2	1	0	Remarks	Judment without range	Factory presetting/ EEPROM initialization
90	LAST TINT									Over 64	31
91	LAST SHARPNESS									Over 21	20
92	LAST VOLUME									Over 64	0
93	LAST BASS									Over 64	31
94	LAST TREBLE									Over 64	31
95	LAST BALANCE									Over 64	31
96	LAST SURROUND									Over 4	OFF
97	LAST BLUE BACK ON/OFF									$A5:OFF/ $5A:ON	ON
98	LAST SERVICE MODE									Over 13	Initial
99	LAST LANGUAGE SELECT MODE									$A5: Chinese, $5A: English	English
9A	COLOUR SYSTEM				COLOUR SYSTEM				AV2, AV1	Same as TV mode	000: AUTO
9B											
9C											
9D											
9E											
9F											
A0	RF AGC									Over 64	0
A1	VCO									Over 64	31
A2	RF SUB VOLUME									Over 128	63
A3	SUB CONTRAST									62-128	70
A4	SUB COLOUR									30-96	55
A5	SUB BRIGHT									30-96	40
A6	SUB TINT									30-96	58
A7	SUB VOLUME									30-96	53
A8	DRIVE (R)									Over 64	31
A9	DRIVE (B)									Over 64	31
AA	CUT OFF (R)									255	0
AB	CUT OFF (G)									255	0
AC	CUT OFF (B)									255	0
AD	H-CENTER 50 Hz									Over 16: Out of the range	6
AE	H-CENTER 60 Hz									Over 16 in difference from 50 Hz	9
AF	BB CONTRAST									Over 128	48
BO	BB BRIGHT									Over 128	40
B1	D-TRAP 5AH Single A5H Double									Other than 5A and A5	Single
B2	F-TRAP 5AH Low A5H High									Other than 5A and A5	High
B3											
B4											
B5											
B6											
B7											
B8											
B9											

E12

子地址	数据 7	6	5	4	3	2	1	0	备注	范围外的判断	出厂前预设/ E^2PROM初始值
90	最后设定色调控制位置									大于64	31
91	最后设定鲜明度控制位置									大于21	20
92	最后设定声音控制位置									大于64	0
93	最后设定低音控制位置									大于64	31
94	最后设定高音控制位置									大于64	31
95	最后设定左右平衡度控制位置									大于64	31
96	最后设定环场音响控制位置									大于4	关
97	最后设定蓝色背景开/关位置									$A5:关/ $5A:开/	开
98	最后设定服务状态位置									大于13	初始值
99	最后设定语言选择位置									$A5:中文 $5A:英文	英文
9A	彩色制式				彩色制式				AV2, AV1	与电视制式相同	000:自动
9B											
9C											
9D											
9E											
9F											
A0	射频自动增益控制									大于64	0
A1	压控振荡									大于64	31
A2	射频副声音									大于128	63
A3	副对比度									62-128	70
A4	副彩色									30-96	55
A5	副亮度									30-96	40
A6	副色调									30-96	58
A7	副声音									30-96	53
A8	红色激励									大于64	31
A9	蓝色激励									大于64	31
AA	红色截止									255	0
AB	绿色截止									255	0
AC	蓝色截止									255	0
AD	水平中心50Hz									除大于16以外均为范围外	6
AE	水平中心60Hz									与50Hz之差大于16	9
AF	蓝色背景对比度									大于128	48
BO	蓝色背景亮度									大于128	40
B1	D-梯形失真 5AH单面 A5H双面									5A和A5除外	单面
B2	F-梯形失真 5AH低 A5H高									5A和A5除外	高
B3											
B4											
B5											
B6											
B7											
B8											
B9											

C12

Sub-address	DATA 7	6	5	4	3	2	1	0	Remarks	Judment without range	Factory presetting/ EEPROM initialization
BA											
BB											
BC											
BD											
BE											
BF											
C0	S-SYSTEM				S-SYSTEM				CH 1, CH 0	Others than 000: AUTO, 001: B/G, 010: I, 011: D/K and 100: M	All channells: 000: AUTO
C1	S-SYSTEM				S-SYSTEM				CH 3, CH 2		
C2	S-SYSTEM				S-SYSTEM				CH 5, CH 4		
C3	S-SYSTEM				S-SYSTEM				CH 7, CH 6		
C4	S-SYSTEM				S-SYSTEM				CH 9, CH 8		
C5	S-SYSTEM				S-SYSTEM				CH11, CH10		
C6	S-SYSTEM				S-SYSTEM				CH13, CH12		
C7	S-SYSTEM				S-SYSTEM				CH15, CH14		
C8	S-SYSTEM				S-SYSTEM				CH17, CH16		
C9	S-SYSTEM				S-SYSTEM				CH19, CH18		
CA	S-SYSTEM				S-SYSTEM				CH21, CH20		
CB	S-SYSTEM				S-SYSTEM				CH23, CH22		
CC	S-SYSTEM				S-SYSTEM				CH25, CH24		
CD	S-SYSTEM				S-SYSTEM				CH27, CH26		
CE	S-SYSTEM				S-SYSTEM				CH29, CH28		
CF	S-SYSTEM				S-SYSTEM				CH31, CH30		
DO	S-SYSTEM				S-SYSTEM				CH33, CH32		
D1	S-SYSTEM				S-SYSTEM				CH35, CH34		
D2	S-SYSTEM				S-SYSTEM				CH37, CH36		
D3	S-SYSTEM				S-SYSTEM				CH39, CH38		
D4	S-SYSTEM				S-SYSTEM				CH41, CH40		
D5	S-SYSTEM				S-SYSTEM				CH43, CH42		
D6	S-SYSTEM				S-SYSTEM				CH45, CH44		
D7	S-SYSTEM				S-SYSTEM				CH47, CH46		
D8	S-SYSTEM				S-SYSTEM				CH49, CH48		
D9										Others than X00: MAIN, X01: SUB, X10: M+S, 0XX: MONO and 1XX: STEREO	All channells: 000: AUTO
DA											
DB											
DC											
DD											
DE											
DF											
E0	S-MODE				S-MODE				CH 1, CH 0		
E1	S-MODE				S-MODE				CH 3, CH 2		
E2	S-MODE				S-MODE				CH 5, CH 4		
E3	S-MODE				S-MODE				CH 7, CH 6		
E4	S-MODE				S-MODE				CH 9, CH 8		
E5	S-MODE				S-MODE				CH11, CH10		
E6	S-MODE				S-MODE				CH13, CH12		
E7	S-MODE				S-MODE				CH15, CH14		
E8	S-MODE				S-MODE				CH17, CH16		
E9	S-MODE				S-MODE				CH19, CH18		

E13

子地址	数据 7	6	5	4	3	2	1	0	备注	范围外的判断	出厂前预设/ E^2PROM初始值
BA											
BB											
BC											
BD											
BE											
BF											
C0	S-系统				S-系统				CH 1, CH 0	除下记以外均为范围外 000:自动 001:B/G 010:I, 011:D/K或者 100:M	全频道: 000:自动
C1	S-系统				S-系统				CH 3, CH 2		
C2	S-系统				S-系统				CH 5, CH 4		
C3	S-系统				S-系统				CH 7, CH 6		
C4	S-系统				S-系统				CH 9, CH 8		
C5	S-系统				S-系统				CH11, CH10		
C6	S-系统				S-系统				CH13, CH12		
C7	S-系统				S-系统				CH15, CH14		
C8	S-系统				S-系统				CH17, CH16		
C9	S-系统				S-系统				CH19, CH18		
CA	S-系统				S-系统				CH21, CH20		
CB	S-系统				S-系统				CH23, CH22		
CC	S-系统				S-系统				CH25, CH24		
CD	S-系统				S-系统				CH27, CH26		
CE	S-系统				S-系统				CH29, CH28		
CF	S-系统				S-系统				CH31, CH30		
DO	S-系统				S-系统				CH33, CH32		
D1	S-系统				S-系统				CH35, CH34		
D2	S-系统				S-系统				CH37, CH36		
D3	S-系统				S-系统				CH39, CH38		
D4	S-系统				S-系统				CH41, CH40		
D5	S-系统				S-系统				CH43, CH42		
D6	S-系统				S-系统				CH45, CH44		
D7	S-系统				S-系统				CH47, CH46		
D8	S-系统				S-系统				CH49, CH48		
D9										除下记以外均为范围外 X00:主 X01:副 X10:M+S, 0XX:单声或者 1XX:立体声	全频道: 000:自动
DA											
DB											
DC											
DD											
DE											
DF											
E0	S-状态				S-状态				CH 1, CH 0		
E1	S-状态				S-状态				CH 3, CH 2		
E2	S-状态				S-状态				CH 5, CH 4		
E3	S-状态				S-状态				CH 7, CH 6		
E4	S-状态				S-状态				CH 9, CH 8		
E5	S-状态				S-状态				CH11, CH10		
E6	S-状态				S-状态				CH13, CH12		
E7	S-状态				S-状态				CH15, CH14		
E8	S-状态				S-状态				CH17, CH16		
E9	S-状态				S-状态				CH19, CH18		

C13

Sub-address	DATA 7	6	5	4	3	2	1	0	Remarks	Judment without range	Factory presetting/ EEPROM initialization
EA	S-MODE				S-MODE				CH21, CH20	Others than X00: MAIN, X01: SUB, X10: M + S, 0XX: MONO and 1XX: STEREO	All channells: 000: AUTO
EB	S-MODE				S-MODE				CH23, CH22		
EC	S-MODE				S-MODE				CH25, CH24		
ED	S-MODE				S-MODE				CH27, CH26		
EE	S-MODE				S-MODE				CH29, CH28		
EF	S-MODE				S-MODE				CH31, CH30		
F0	S-MODE				S-MODE				CH33, CH32		
F1	S-MODE				S-MODE				CH35, CH34		
F2	S-MODE				S-MODE				CH37, CH36		
F3	S-MODE				S-MODE				CH39, CH38		
F4	S-MODE				S-MODE				CH41, CH40		
F5	S-MODE				S-MODE				CH43, CH42		
F6	S-MODE				S-MODE				CH45, CH44		
F7	S-MODE				S-MODE				CH47, CH46		
F8	S-MODE				S-MODE				CH49, CH48		
F9											
FA											
FB											
FC	DELAY TIME PAL									7.3 bit masked	55H
FD	DELAY TIME SECAM										66H
FE	DELEY TIME NTSC										55H
FF	DELEY TIME B/W										11H

子地址	数据 7	6	5	4	3	2	1	0	备注	范围外的判断	出厂前预设/ E^2PROM初始值
EA	S-状态				S-状态				CH21, CH20	除下记以外均为范围外 X00:主 X01:副 X10:M+S, 0XX:单声或者 1XX:立体声	全频道： 000:自动
EB	S-状态				S-状态				CH23, CH22		
EC	S-状态				S-状态				CH25, CH24		
ED	S-状态				S-状态				CH27, CH26		
EE	S-状态				S-状态				CH29, CH28		
EF	S-状态				S-状态				CH31, CH30		
F0	S-状态				S-状态				CH33, CH32		
F1	S-状态				S-状态				CH35, CH34		
F2	S-状态				S-状态				CH37, CH36		
F3	S-状态				S-状态				CH39, CH38		
F4	S-状态				S-状态				CH41, CH40		
F5	S-状态				S-状态				CH43, CH42		
F6	S-状态				S-状态				CH45, CH44		
F7	S-状态				S-状态				CH47, CH46		
F8	S-状态				S-状态				CH49, CH48		
F9											
FA											
FB											
FC	PAL制式延迟时间									掩模7.3位数	55H
FD	SECAM制式延迟时间										66H
FE	NTSC制式延迟时间										55H
FF	B/W制式延迟时间										11H

(5) EEPROM initialization

At switching 3, the following data are transmitted to the EEPROM.

- Factory preset data

Item	Setting
LAST CH	CH1
LAST POWER	ON
FLACH BACK	CH1
SURROUND	OFF
BLUE BACK	ON
VOLUME	1/64 level
CONTRAST	64/64 level
COLOUR	32/64 level
BRIGHT	32/64 level
TINT	32/64 level
SHRPNESS	16/32 level
BASS	32/64 level
TREBLE	32/64 level
BALANCE	32/64 level
AFT	ALL CH ON
SKIP	ALL CH OFF
DOLOUR SYSTEM	ALL CH AUTO
SOUND SYSTEM	ALL CH AUTO
IGR MODE	ALL CH STEREO
IGR MODE	ALL CH MAIN
LANGUAGE SELECT	ENGLISH
SERVICE MODE	INITIAL

- SERVICE MODE reference data

Item	Data (decimal)
R-CUT OFF	0
G-CUT OFF	0
B-CUT OFF	0
R-DRIVE	31
B-DRIVE	31
H-CENTER 50	6
H-CENTER 60	9
SUB CONTRAST	70
SUB COLOUR	55
SUB BRIGHT	40
SUB TINT	58
SUB VOLUME	53
RF SUB VOL	63
RF AGC	0
VCO	31
B. B CONTRAST	48
B. B BRIGHT	40
D-TRAP	0 (SINGLE)
F-TRAP	1 (HIGH)

- DELAY TIME reference data

Item	Data (hexadecimal)
PAL DELAY TIME	55H
SECAM DELAY TINE	66H
NTSC DELAY TIME	55H
B/W DELAY TIME	11H

(5) E^2PROM初始值的设定

用切换开关3输入下记数据于E^2PROM装置之中。

- 出厂前的初始设定数据

项目	设定值
最后设定频道	频道1
最后设定电源	开
反闪	频道1
环场音响	关
蓝色背景	开
音量	1/64级
对比度	64/64级
彩色	32/64级
亮度	32/64级
色调	32/64级
鲜明度	16/32级
低音	32/64级
高音	32/64级
左右平衡	32/64级
自动微调	全频道 开
频道跳跃	全频道 关
彩色制式	全频道 自动
声音制式	全频道 自动
IGR制式	全频道 立体声
IGR制式	全频道 主要
语言选择	英文
服务状态	开头

- 服务状态的标准数据

项目	数据（十进制）
红色截止	0
绿色截止	0
蓝色截止	0
红色激励	31
蓝色激励	31
水平中心 50	6
水平中心 60	9
副对比度	70
副彩色	55
副亮度	40
副色调	58
副音量	53
射频副音量	63
射频自动增益控制	0
压控振荡	31
蓝色背景对比度	48
蓝色背景亮度	40
D-梯形失真	0（单）
F-梯形失真	1（高）

- 延迟时间的标准数据

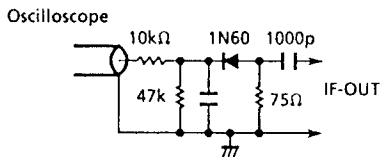
项目	数据（十六进制）
PAL制式延迟时间	55H
SECAM制式延迟时间	66H
NTSC制式延迟时间	55H
B/W制式延迟时间	11H

SERVICE ADJUSTMENT

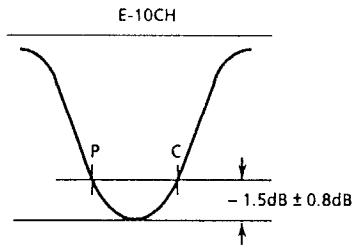
PIF/AFT/AGC ADJUSTMENT

TUNER IFT (Preset)

1. Receive the E-12CH (VHF-H band) signal. Disconnect the antenna to get the tuner without any signal input.
2. Connect the sweep generator's output cable to the tuner antenna.
3. Adjust the sweep generator's output level to 80 dBμV.
4. Connect the response lead (use a low-impedance probe with wave detector.) to the tuner's IF output terminal. (This terminal must have the probe alone connected.)



5. Set the RF AGC voltage to 0-6 V with no contact with the waveform.
6. Adjust the tuner IF coil to obtain the wave form as shown in figure below.



Note:
Be sure to keep the tuner cover in position during this adjustment.

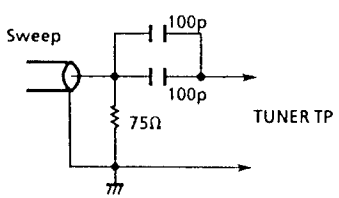
TRAP ADJUSTMENT: T203 (ADJ-S), T204 (ADJ-P)

1. Receive the E-12CH (VHF-H band) signal. Disconnect the antenna to get the tuner without any signal input.

Note:
The no-signal-input state can be introduced even with the antenna connected. Ground the tuner's RF-AGC terminal with a 220-ohm resistor in between.

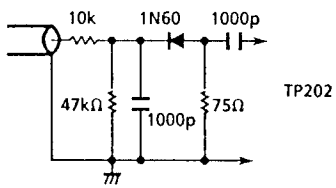
2. Connect the sweep generator's output cable to the tuner's test point. (Use a 75-ohm DC-cut probe.)

Note:
Ground the sweep generator's output probe near the tuner's test point.



3. Adjust the sweep generator's output level to 85 dBμV.
4. Connect the response lead (use a low-impedance probe with wave detector.) to TP202 (collector of Q201).

Oscilloscope

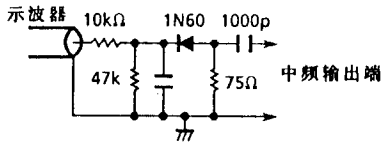


保养调整

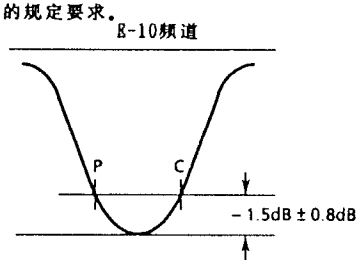
PIF/AFT/AGC的调试

调谐器中频变压器线圈的调试（预设）

1. 接收E-12频道(高域甚高频VHF)信号后，拔出天线接线端，设频道于无信号接收状态。
2. 接扫频振荡器输出端于调谐器天线接线端。
3. 扫频振荡器输出电平：80dBμV。
4. 接响应引线（使用带有检放器的低阻抗探针）于调谐器中频输出端。（只接探针于调谐器中频输出端）。



5. 设射频自动增益控制RF AGC于0至6V，消去其波形表示。
6. 再将调谐器中频线圈所得波形调至下图所示的规定要求。



注意：
调整时，请确认调谐器盒盖的罩接。

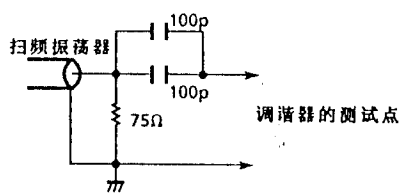
陷波的调试：T203(调节-S)，TP204(调节-P)

1. 接收E-12频道(高域甚高频VHF)信号后，拔出天线接线端，设频道于无信号接收状态。

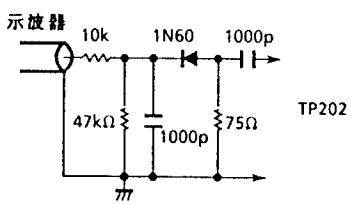
注意：在连接天线接线端之状态下通过220Ω电阻器将调谐器的射频自动增益控制接线端接地，便可设频道于无信号接收状态。

2. 接扫频振荡器输出端于调谐器的测试点。（使用75Ω直流截止探针）

注意：必须在调谐器的测试点附近进行扫频振荡器输出探针的接地。



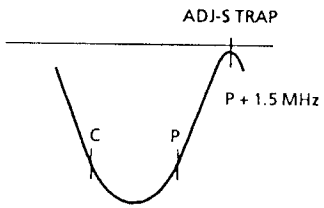
3. 扫频振荡器输出电平：85dBμV。
4. 接响应引线（使用带有检放器的低阻抗探针）于TP202(Q201的集电极)。



PIF/AFT/AGC ADJUSTMENT (Continued)

TRAP ADJUSTMENT: T203 (ADJ-S), T204 (ADJ-P) (Continued)

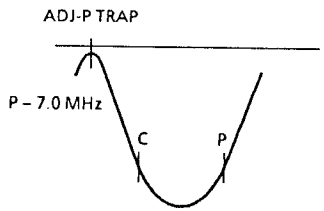
5. Adjust T203 so that the ADJ-S trap be roughly P + 1.5 MHz.
6. Adjust T204 so that the ADJ-P trap be roughly P-7.0 MHz.



7. Finely adjust T203 and T204. Narrow the sweep generator's sweep range and focus on the trapping point. Turn up the sweep generator output by 10 dB and exactly adjust to the trapping point.

Note:

Be sure to make an exact adjustment because the trapping is important to prevent adjacent-channel interference.

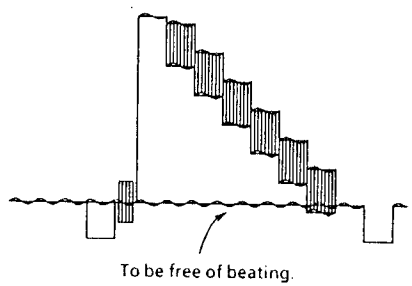


COIL ADJUSTMENT: T202 (VCO)

1. Receive the E-12CH (VHF-H band, PAL colour bar) signal. If this signal is not available, receive an E-5CH or higher-channel signal.
   - Field strength: 55-80 dBμV
2. Connect the oscilloscope to TP401 (R901).
   - Range: 0.5 V/div.
   - Sweep time: 20 μsec/div.
   - Sync: Horizontal sync
3. Connect the standard signal generator's output cable to the tuner's IF output terminal with a 1-pF capacitor in between.
   - Frequency: 38.9 MHz (CW) ± 5 kHz
   - Level: About 90 dBμV
4. Using the Preset key, bring about the MANUAL (VHF-H) mode. Adjust the Fine Tuning Up/Down keys so that the waveform be free of beating.
5. Using the Preset key, bring about the NORMAL mode.
6. Adjust T202 so that the waveform be free of beating.
   - Adjustment error: 38.9 MHz ± 25 kHz

Note:

Make this adjustment with the VCO bus data in the service mode at 31/63.



Note:

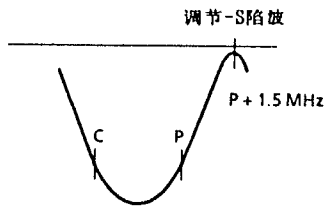
Warm up the unit long enough before starting adjustment and checking.

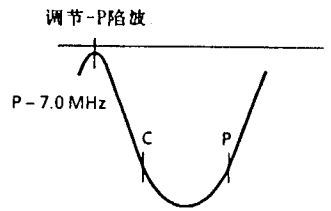
PIF/AFT/AGC的调试 （接上页）

陷波的调试：T203（调节-S），TP204(调节-P)（接上页）

5. 调节T203，使调节-S的陷波达至P+1.5MHz左右。
6. 调节T204，使调节-P的陷波达至P-7.0MHz左右。

7. 微调T203和T204，以便缩小扫描频带，并扩大陷波点。
然后，将扫频振荡器的输出增高10dB，以便正确地调整陷波点。

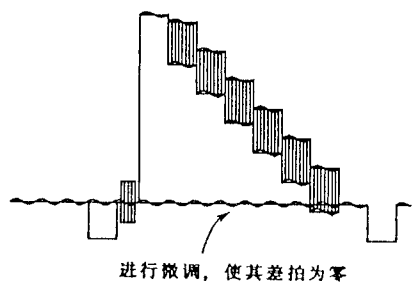




线圈的调试：T202（压控振荡器VCO）

1. 接收E-12频道(高域甚高频的PAL制式彩条)信号。无E-12频道信号输入时，可用E-5频道以上的频道信号代替。
   - 场强度：55～80dBμV
2. 接示波器于TP401(R901)。
   - 测示范围： 0.5V/段
   - 扫描时间： 20微秒/段
   - 同步动作： 水平同步
3. 通过串接一只1pF的电容器，接标准信号发生器的输出端于调谐器中频输出端。
   - 频率： 38.9MHz(CW)±5kHz
   - 电平： 约90dBμV
4. 触按预设键置电视机于"MANUAL VHF-H"（高域甚高频)状态。上下调节调谐器的微调控制，使其输出波形呈现零拍。
5. 再触按预设键处电视机于标准状态。
6. 调节T202，使其输出波形的差拍消失为零。
   - 调整误差： 38.9MHz ± 25kHz

注意：作此项调试之前，必须确认在服务状态下的"压控振荡器VCO"的总线控制数据为31/63。



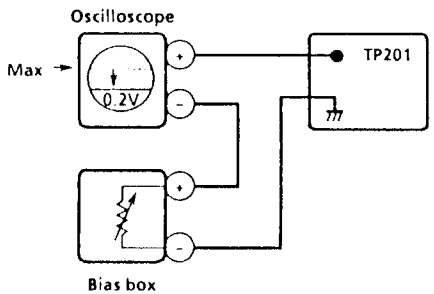
注意：

作此项调试之前，应先充分预热之。

PIF/AFT/AGC ADJUSTMENT (Continued)

RF AGC CUT-IN ADJUSTMENT: I2C bus adjustment in service mode

1. Receive the E-12CH (PAL colour bar) signal.
   • Field strenght: 57 ± 1 dBμV (50 ohms open)
2. Connect the oscilloscope to TP201 (tuner's AGC terminal), as shown in figure below.
3. Adjust the RF AGC bus data so that the voltage be maximum.
4. Adjust the RF AGC bus data to make the voltage drop down 0.2 V from maximum.
   • Adjustment error: 0.2 ± 0.1 V
5. Adjust the signal level to 63-67 dBμV and make sure there is no noise.
6. Now adjust the signal level to 90-95 dBμV and make sure there is no chrominance modulation beat.



Bias box: About 6.0 V

SOUND ADJUSTMENT

RF sub-volume: I2C bus adjustment in service mode

1. Receive the E-12CH (PAL colour bar) signal.
   • Audio signal: 400 Hz, 100% modulated (50 kHz dev.)
2. Connect the oscilloscope to the Audio Out (L or R) terminal. (Terminate with a 10k ohm impedance.)
3. Adjust the RF SUB VOL data so that the 400-Hz sine wave be 1.76 Vp-p.
   • Adjustment error: 1.76 + 0.04/-0.06 Vp-p

Note:
The adjustment error in adjusting TP301 and TP302 is as follows.
• Adjustment error: 1.45 ± 0.05 Vp-p

Sub-volume (preset): I2C bus adjustment in service mode

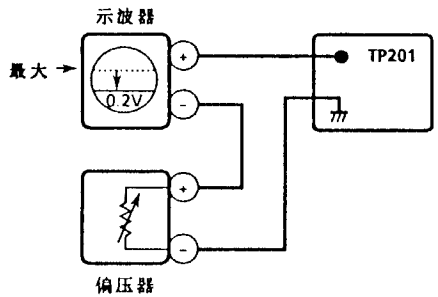
1. Receive the E-12CH (PAL colour bar) signal.
   • Audio signal: 400 Hz, 100% modulated (50 kHz dev.)
2. Connect the VTVM's probes to TP303(+) and TP304(-)
3. Adjust the SUB VOL data so that the VTVM should read 8.00 Vrms.
   • Adjustment error: 8.00 ± 0.1 Vrms

Notes:
* Surround sound system off
* In the S-Normal mode
* S-VOL control at MAX position

PIF/AFT/AGC的调试 （接上页）

射频自动增益控制插入调试：在服务状态下进行I²C总线的调试

1. 接收E-12频道（PAL制式彩条）信号。
   ●场强度：57 ± 1dBμV （端接50Ω电阻）
2. 按下图所示要求接示波器于TP201(调谐器自动增益控制接线端)。
3. 调节“射频自动增益控制”的总线控制数据，使所测电压读数达至最大。
4. 调节“射频自动增益控制”的总线控制数据，将电压读数调至最大值-0.2V之程度。
   ●调整误差：0.2V ± 0.1V
5. 调信号强度为63～67dBμV，确认无噪声出现。
6. 再调信号强度为90～95dBμV，确认无色度信号调制差拍出现。



偏压器电压：约6.0V

声音制式的调试

射频副声音的调试：在服务状态下进行I²C总线的调试

1. 接收E-12频道（PAL制式彩条）信号。
   ●音频信号成分：400Hz,100调制(50kHz偏转)
2. 接示波器于音频输出端（左或右）。（端接10kΩ电阻）
3. 调节射频副声音数据，使400Hz正弦波幅值达至1.76Vp-p的规定要求。
   ●调整误差：1.76+0.04Vp-p
   1.76-0.06Vp-p

注意：用TP301或TP302进行调整之场合：
●调整误差：1.45 ± 0.05Vp-p

副声音的调试（预设）：在服务状态下进行I²C总线的调试

1. 接收E-12频道(PAL制式彩条）信号。
   ●音频信号成分：400Hz,100%调制(50kHz偏转)
2. 接电子管电压计VTVM探针于TP303(+)和TP304(-)。
3. 调节副声音数据，使电子管电压计所测读数达至8.00Vrms的规定要求。
   ●调整误差：8.00 ± 0.1Vrms

注意：
●环场音响系统：OFF
●标准声音状态
●音量：最大

SOUND ADJUSTMENT (Continued)

Noise mute checking

1. Receive the E-12CH (400 Hz, 100% modulated) signal.
2. Turn up the volume control to maximum and make sure the sound is heard from the speakers. Then put the unit in the no-signal state.
3. Be sure that the sound mute is effective.
4. Finally turn down the volume control to minimum.

115V ADJUSTMENT

R725 ADJUSTMENT

1. Receive the E-5CH (monoscope pattern) signal.
2. Set the unit in the P-Normal mode.
   - Contrast: 64/64 (maximum)
   - Brightness: 32/64 (normal)
3. Connect the beam current meter to TP601 (–) and TP602 (+).
4. Take the beam current meter reading to see if the beam current is somewhere between 900 and 1100 μA.

Note:
If the beam current is not in this range, adjust the SUB CON data in the service mode so that the beam current be in this range.

5. Connect the digital voltmeter across C731.
6. Adjust R725 so that the meter reading be 115 ± 0.5 V.

声音制式的调试（接上页）

消音功能的检查

1. 接收E-12频道(400Hz,100%调制）信号。
2. 设音量控制于最大位置，检查扬声器的声音输出，然后，设电视机于无信号接收状态。
3. 此时，检查消音功能是否工作。
4. 最后，设音量控制于最小位置。

115V线路的调试

R725的调试

1. 接收E-5频道(单象管图案)信号。
2. 设电视机于标准图象设定状态。
   - ●对比度：最大(64/64)
   - ●亮度：标准(32/64)
3. 接电子束电流计于TP601(—)和TP602(+)。
4. 用电子束电流计检查电子束电流是否于800～1100μA之间。

注意：上述之外之场合，必须在服务状态下调节副对比度控制，使电子束电流计所测的读数达至900～1100μA的规定要求。

5. 接数字式电压计于C731两端。
6. 调节R725，使数字式电压计所测的读数达至115 ± 0.5V的规定要求。

PURITY ADJUSTMENT

1. Keep the static convergence roughly adjusted.
2. Maintain the purity magnet at the zero magnetic field.

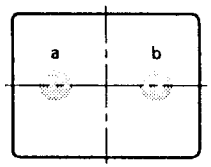


Fig. A

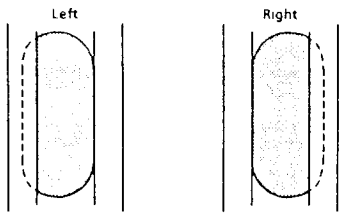


Fig. B

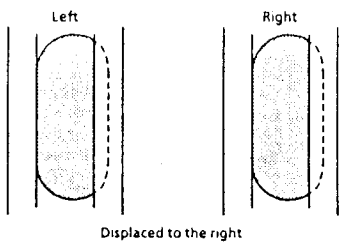


Fig. C

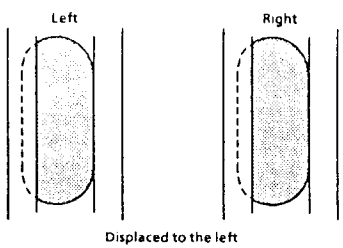


Fig. D

1. Warm up the unit for 30 minutes or longer with a beam current of over 700 μA.
2. Receive the green-only signal. Adjust the beam current to 700 μA or so.
3. Degauss the CRT enough with the degaussing coil.

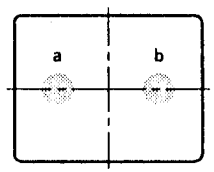
PREPARATIONS

- Orientation: Eastward
  Adjustment field
  Vertical (Bv): + 30,000 nT (+ 0.30 gauss)
  Horizontal (Bh): 20,000 nT (0.20 gauss)

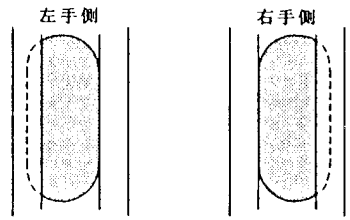
1. Observe the points "a" and "b", as shown in Fig. A, through a microscope. Adjust the landings to the specified requirements.
2. Move the deflection yokes forward so that the left and right landings be equally placed outward. See Fig. B.
3. If the landings are placed to the left or right, as shown in Figs. C and D, readjust the open angle of the purity magnet.
4. Make sure the left and right beam landings are as specified. Now check the CRT corners to see if they all meet the rank "B" requirements.
5. If any other colour appears on the screen, move the deflection coil backward.
   - Landings outward: Deflection yokes forward
   - Landings inward: Deflection yokes backward
6. Orient the raster rotation to 0 eastward.
7. Tighten up the deflection coil screws.
   - Tightening torque: 11 ± 2 kg-cm

色彩纯度的调试

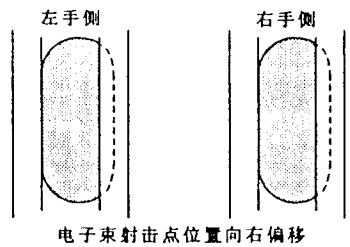
1. 必须先对静聚焦度进行粗调。
2. 调节色彩纯度磁铁，使其磁场磁势为0。



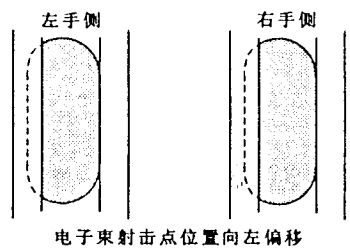
图A



图B



图C



图D

1. 作此项调试之前，先用大于700μA的电子束电流预热阴极显象管CRT30分钟以上。
2. 接收绿色单色信号，并调节其电子束电流于700μA左右。
3. 通过消磁线圈对阴极显象管CRT作完全消磁处理。

调试

- 调试中，必须保持CRT面朝东方。
  调整磁场磁势
  垂直(Bv)：+30,000nT(+0.30高斯)
  水平(Bh)：20,000nT(0.20高斯)

1. 用放大显示镜观察图A所示两色点(a点和b点)，调节色彩纯度磁铁，使两色点位置符合规定要求。
2. 如果两色点位置如图B所示各自发生左右偏移，可向前按压偏转线圈将其调整。
3. 如果两色点位置如图C或图D所示均发生向右或向左偏移，可通过调节色彩纯度磁铁的开启程度，调整电子束射击点位置。
4. 设定荧屏中心部位左右两边的电子束射击点位置于正确的射击点位置。然后，检查荧屏四角的射击点位置正确与否。最后，按规范B级要求检查荧屏上任意点的着色位置是否满足规定要求。
5. 如果着色点掺杂有其它色彩，可向后拉偏转线圈消除其它杂色。
   - 着色点位置向外偏移：前推偏转线圈加以调节。
   - 着色点位置向内偏移：后拉偏转线圈加以调节。
6. 将光栅偏转角调节至0，并保持阴极显象管CRT面朝东方。
7. 紧固偏转线圈的螺丝。
   - 紧固扭矩：11kg ± 2kg-cm

CONVERGENCE ADJUSTMENT

CONVERGENCE ADJUSTMENT (To be done after the purity adjustment)

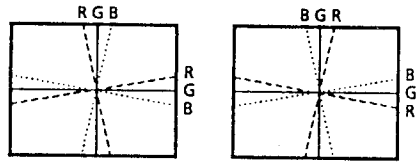


Fig. a *Fig. b*

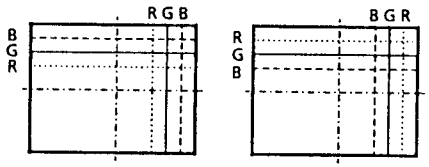
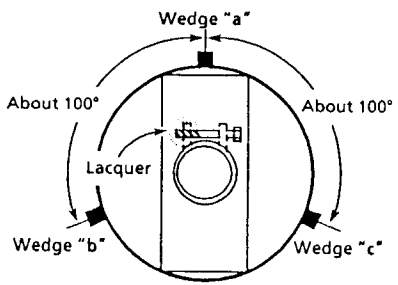
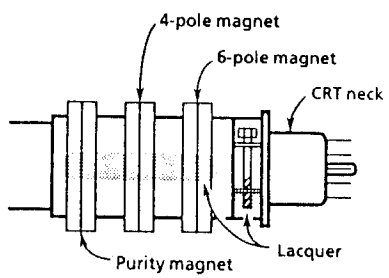


Fig. c *Fig. d*





1. Receive the E-2CH (crosshatch pattern) signal.
2. Make the brightness and contrast settings at 32/64 (Normal) and 64/64 (Maximum), respectively.

STATIC CONVERGENCE

1. Turn the 4-pole magnet to a proper open angle in order to superpose the blue and red colours.
2. Turn the 6-pole magnet to a proper open angle in order to superpose the green over the blue and red colours.

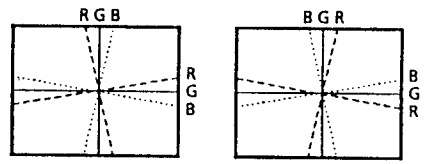
DYNAMIC CONVERGENCE

1. Adjust the convergence on the fringes of the screen in the following steps.
   a) Fig. a: Drive the wedge at point "a" and swing the deflection coil upward.
   b) Fig. b: Drive the wedges at points "b" and "c" and swing the deflection coil downward.
   c) Fig. c: Drive the "c" wedge deeper and swing the deflection coil rightward.
   d) Fig. d: Drive the "b" wedge deeper and swing the deflection coil leftward.
2. Fix all the wedges on the CRT and apply glass tape over them.
3. Apply lacquer to the deflection yoke lock screw, magnet unit (purity, 4-pole and 6-pole magnets) and magnet unit lock screw.

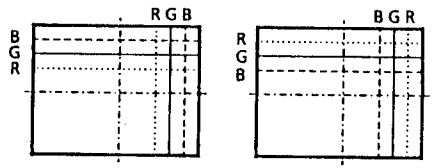
Finally receive the red-only and blue-only signals to make sure there is no other colours on the screen.

画面聚焦度的调试

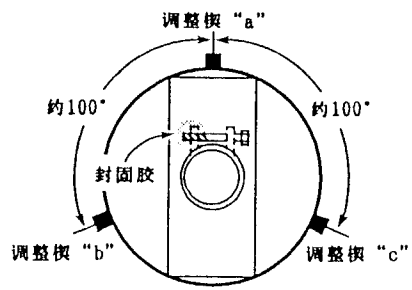
画面聚焦度的调试（此项调试必须于色彩纯度磁铁调试完毕后进行）。

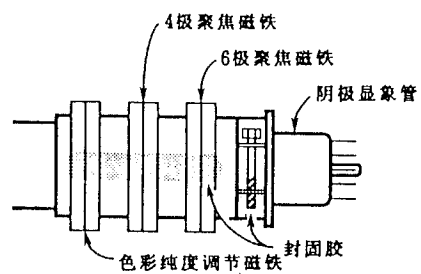


图a 图b



图c 图d





1. 接收E-2频道（棋盘格测试图案）信号。
2. 设亮度控制于标准位置(32/64)。
   设对比度控制于最大位置(64/64)。

静聚焦度的调试

1. 调节4极聚焦磁铁的开角与转角，使蓝色线条与红色线条重叠。
2. 调节6极聚焦磁铁的开角与转角，使绿色线条再与蓝、红色重叠线条重叠。

动聚焦度的调试

1. 按下述要求调节荧屏周边的聚焦度。
   a) 图a：插调整钩于"a"，向上摆动偏转线圈进行调节。
   b) 图b：插调整钩于"b"和"c"，向下摆动偏转线圈进行调节。
   c) 图c：深插调整钩"c"，向右摆动偏转线圈加以调节。
   d) 图d：深插调整钩"d"，向左摆动偏转线圈加以调节。
2. 贴三支调整钩于阴极显象管CRT上，用玻璃胶带固定之。
3. 加封固胶于偏转线圈的固定螺丝、磁铁装置（色彩纯度调节磁铁、4极与6极聚焦磁铁）以及磁铁装置的固定螺丝，封固之。

该项调试完毕后，再让电视机接收红色信号或蓝色信号，然后，检查接收的单色信号是否掺杂有其它色彩信号。

CUT-OFF, BACKGROUND AND SUB-CONTRAST ADJUSTMENTS

CRT CUT-OFF ADJUSTMENTS

Service mode: I²C bus adjustment (R-CUT OFF, G-CUT OFF, B-CUT OFF, SUB BRI)

Screen control

1. Receive the E-5CH (monoscope pattern) signal.
2. Adjust the SUB BRI data to 40/127.
3. Select the CUT OFF BKGD mode in the service mode.
4. Make the following settings.
   R-CUT OFF: 0/255
   G-CUT OFF: 0/255
   B-CUT OFF: 0/255
   Screen control: 0/10
5. Press the "9" key on the remote controller to reach the horizontal centering mode.
6. Turn the screen control clockwise until the horizontal raster of the first glimmering colour becomes slightly visible.
7. Adjust the cut-off data of the other two colours until the horizontal raster becomes whitish. (Note 1)
8. Turn the screen control counterclockwise until the horizontal raster disappears.
9. Press the "9" key on the remote controller to call the Normal mode.

Note 1:
Before starting this adjustment, warm up the unit for 30 minutes or longer at a beam current of over 700 μA.

- R CUT OFF UP "1" KEY
- R CUT OFF DOWN "4" KEY
- G CUT OFF UP "2" KEY
- G CUT OFF DOWN "5" KEY
- B CUT OFF UP "3" KEY
- B CUT OFF DOWN "6" KEY

The data can be turned up and down with the above keys.

WHITE BALANCE ADJUSTMENTS

Service mode: I²C bus adjustment (R-DRIVE, B-DRIVE)

1. Receive the E-5CH (monoscope pattern) signal.
2. Make this adjustment just after the CRT cut-off adjustment.
3. Connect the beam current meter between TP601 (−) and TP602 (+). (Full scale: 3-mA range)
4. Press the "30+" key on the remote controller to call the PIC3 mode. Roughly adjust the SUB CONT data to have a beam current of 1100 μA.
5. Adjust the G-DRIVE and B-DRIVE data to have a colour temperature of 10900°K (white). (Note 2)
6. Press the "10+" key on the remote controller to call the PIC1 mode. Now check the colour temperature. If the colour temperature is not 10900°K, go back to the above item 1.

- 10+ PIC1 Contrast 1/64
- 10+ PIC1 Bright 32/64
- 20+ PIC2 Contrast 64/64
- 20+ PIC2 Bright 32/64
- 30+ PIC3 Contrast 64/64
- 30+ PIC3 Bright 64/64
- 10900°K x: 0.275 y: 0.287

(with a Minolta colour temperature meter)

Note 2:

- R DRIVE UP "7" KEY
- R DRIVE DOWN "" KEY
- B DRIVE UP "8" KEY
- B DRIVE DOWN "0" KEY

SUB-CONTRAST ADJUSTMENTS

Service mode: I²C bus adjustment (SUB CONT)

1. Make this adjustment just after the white balance adjustment.
2. Receive the E-5CH (monoscope pattern) signal.
3. Connect the beam current meter between TP601 (−) and TP602 (+).
   - Meter's full-scale: 3 mA range
4. Adjust the SUB CONT bus data so that the beam current be 1100 μA.

Note:
Before starting this adjustment, warm up the unit for 30 minutes or longer at a beam current of over 700 μA.

阴极显象管CRT截止、蓝色背景以及副对比度的调试

阴极显象管CRT截止的调试

在服务状态下进行I²C总线的调试。
（红色截止、绿色截止、蓝色截止及副亮度控制）
荧屏控制旋钮

1. 接收E-5频道（单象管图案）信号。
2. 设副亮度控制于40/127位置。
3. 在服务状态下，选择截止蓝色背景状态。
4. 红色截止：0/255
   绿色截止：0/255
   蓝色截止：0/255
   设荧屏控制于0/10位置。
5. 触按遥控器上的"9"键钮以选择水平中心状态。
6. 顺时针方向旋转荧屏控制旋钮，直至荧屏上微弱地出现水平光栅为止。
7. 调节其它两色的截止数据，使荧屏上的水平光栅变为白色。（见注意1）
8. 逆时针方向旋转荧屏控制旋钮，直至荧屏上的水平光栅完全消失为止。
9. 触按遥控器上的"9"键钮以选择NORMAL(标准）状态。

注意1：
作此项调试之前，先用大于700μA的电子束电流预热阴极显象管CRT30分钟以上。

- 红色截止的上移："1"键钮
- 红色截止的下移："4"键钮
- 绿色截止的上移："2"键钮
- 绿色截止的下移："5"键钮
- 蓝色截止的上移："3"键钮
- 蓝色截止的下移："6"键钮

用下记数字键钮可进行数据的上移或下移工作。

白色平衡的调试

在服务状态下进行I²C总线的调试
（红色激励、蓝色激励）

1. 接收E-5频道（单象管图案）信号。
2. 该项调试应在阴极显象管CRT截止的调试完毕后进行。
3. 接电子束安培计于TP601(—)与TP602(+)之间。（安培计测示范围：3mA)
4. 触按遥控器上的"30+"键钮以选择PIC3。粗调副对比度控制旋钮，使电子束电流达至1100μA左右。
5. 调节绿、蓝两色激励数据，以获得色温为10900° K的白色。（见注意2)
6. 触按遥控器上的"10+"键钮以选择PIC1，然后，检查色温是否为规定范围内。(电子束电流：约200μA)。此时，如果色温并非为10900° K，则必须返回至前项的第1项重新进行调整。

- 10+PIC1 对比度1/64
- 10+PIC1 亮度32/64
- 20+PIC2 对比度64/64
- 20+PIC2 亮度32/64
- 30+PIC3 对比度64/64
- 30+PIC3 亮度64/64
- 10900° K X:0.275 Y:0.287

（美能达色温计所测）

注意2：
用下记数字键钮可进行数据的上移或下移工作。

- 红色激励的上移："7"键钮
- 红色激励的下移：" "键钮
- 蓝色激励的上移："8"键钮
- 蓝色激励的下移："0"键钮

副对比度控制的调试

在服务状态下进行I²C总线的调试（副对比度）

1. 该项调试应在白色平衡的调试完毕后进行。
2. 接收E-5频道(单象管图案）信号。
3. 接电子束安培计于TP601(-)与TP602(+)之间。
   - 安培计测示范围：3mA
4. 调节副对比度总线控制数据，使电子束安培计所测的读数达至1100μA的规定要求。

注意：作此项调试之前，必须用大于700μA的电子束电流预热阴极显象管CRT30分钟以上。

OSD ADJUSTMENTS

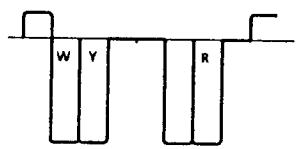
OSD ADJUSTMENT: T1001

1. Receive the E-2CH (crosshatch pattern) signal.
2. Press the CHANNEL CALL key.
3. Make sure the right-hand edge of the OSD character is aligned with the second line from right of the crosshatch pattern. Readjust T1001 if the alignment is beyond ± 1/2 line width.

PAL CHROMA ADJUSTMENTS

SUB-COLOUR

Service mode: I2C bus adjustment (SUB COL)
1. Receive the E-12CH (PAL colour bar) signal.
2. Connect the oscilloscope to TP852 (RED cathode).
   (Use a 10:1 probe.)
   - Range: 2 V/div.
   - Sweep time: 20 μsec/div.
3. Call the SUB COL mode in the service mode. Adjust the SUB COL data so that the white and red portions of the PAL colour bar be at the same level. See Fig. 1-1.
4. Clear the adjustment mode.

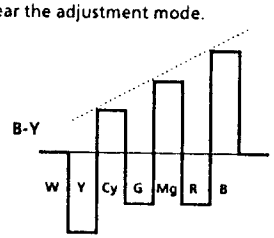


W and R portions to be at the same level

NTSC CHROMA ADJUSTMENTS

SUB-TINT

Service mode: I2C bus adjustment (SUB TIN)
1. Receive the JA-8CH (colour bar) signal.
2. Connect the oscilloscope to TP853 (B-Y).
   - Range: 20 mV/div. (AC)
   - Sweep time: 20 μsec/div.
   (Use a 10:1 probe.)
3. Call the SUB COL mode in the service mode. Adjust the SUB TIN data to obtain the waveform as shown in figure.
4. Clear the adjustment mode.



在屏表示文字的调试

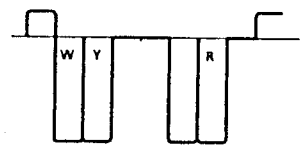
在屏表示文字的调试：T1001

1. 接收E-2频道（棋盘格测试图案）信号。
2. 触按频道呼出键。
3. 以棋盘格测试图案的右边第二条线与其表示文字右边相一致的位置为基准。如果其表示文字向左右方有1/2条线的偏移，便用T1001调节之。

PAL制式色度信号的调试

副彩色的调试

在服务状态下进行I²C总线的调试（副彩色）
1. 接收E-12频道(PAL制式彩条）信号。
2. 接示波器于TP852（红色阴极）。
   （使用10:1的探针为宜）
   - 测示范围：2V/段
   - 扫频时间：20微秒/段
3. 在服务状态下选择副彩色方式，然后，调节副彩色数据，使白色信号与红色信号达至右图所示的同样电平值。
4. 取消此项调整状态的设定。

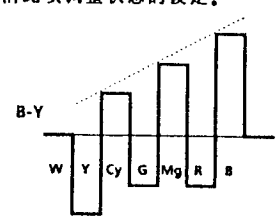


使白色信号与红色信号的电平值相同

NTSC制式色度信号的调试

副色调的调试

在服务状态下进行I²C总线的调试（副色调）
副色调控制
1. 接收JA-8频道（NTSC制式彩条）信号。
2. 接示波器于TP853(B-Y)。
   - 测示范围：20mV/段（交流）
   - 扫频时间：20微秒/段
   （使用10:1的探针为宜）
3. 在服务状态下选择副彩色方式，然后，调节副色调数据，以获得右图所示的输出波形。
4. 取消此项调整状态的设定。



HORIZONTAL AND VERTICAL CIRCUIT ADJUSTMENT

H-SIZE: CN601

1. Receive the E-5CH (monoscope pattern) signal.
2. Insert P605 in CN601 to have the best horizontal size.

OVER SCAN 6% MIN
8% TYP
10% MAX

Note:
Make this adjustment just after the purity and convergence adjustments.

H-CENTER 50

I2C bus adjustment
1. Receive the E-5CH (monoscope pattern) signal.
2. In the service mode, adjust the H-CENT 50 data to align the pattern's center with the CRT's mechanical center.

H-CENT 60 (preset)

I2C bus adjustment
1. Receive the J-50CH (monoscope pattern) signal.
2. In the service mode, adjust the H-CENT 60 data to align the pattern's center with the CRT's mechanical center.

V-LIN: R523

1. Receive the E-5CH (monoscope pattern) signal.
2. Adjust R523 to have the best vertical linearity.

V-SIZE: R527

1. Receive the E-5CH (monoscope pattern) signal.
2. Adjust R527 so that the vertical size be the same as the overscan of the horizontal size.

V-CENT: S501

1. Receive the E-5CH (monoscope pattern) signal.
2. Adjust S501 to align the pattern's center with the CRT's mechanical center.

FOCUS: FOCUS CONTROL

1. Receive the E-5CH (monoscope pattern) signal.
2. Adjust the focus control to get the best focusing.

Note:
Make this adjustment just after the sub-contrast adjustment.

水平同步电路及垂直同步电路的调试

水平尺寸：CN601

1. 接收E-5频道（单象管图案）信号。
2. 插入P605于CN601，使水平尺寸达至最佳状态。

过扫描 6%最小
8%TYP
10%最大

注意：
此项调试应在色彩纯度的调试完毕后进行。

水平中心50

I^2C总线的调试
1. 接收E-5频道（单象管图案）信号。
2. 在服务状态下调节“水平中心50”数据，使荧屏中心与阴极显象管的几何中心对齐。

水平中心60（预设）

I^2C总线的调试
1. 接收J-50频道（单象管图案）信号。
2. 在服务状态下调节“水平中心60”数据，使荧屏中心与阴极显象管的几何中心对齐。

垂直线性度：R523

1. 接收E-5频道（单象管图案）信号。
2. 调节R523，使垂直线性度达至最佳状态。

垂直尺寸：R527

1. 接收E-5频道（单象管图案）信号。
2. 调节R527，使垂直尺寸达至与水平尺寸的过扫描相同的尺寸。

垂直中心：S501

1. 接收E-5频道（单象管图案）信号。
2. 调节S501，使荧屏中心与阴极显象管的几何中心对齐。

聚焦：聚焦控制

1. 接收E-5频道（单象管图案）信号。
2. 调节聚焦控制，以获得最佳聚焦效果。

注意：此项调试应在副对比度的调试完毕后进行。

FUNCTION CHECK (PICTURE AND SOUND)

CONTRAST KEY

1. Receive the E-5CH (monoscope pattern) signal.
2. Select the contrast in the picture mode.
3. Using the UP/DOWN key, make sure the contrast varies accordingly.

COLOUR KEY

1. Receive the J-13CH (colour bar) signal.
2. Select the colour in the picture mode.
3. Using the UP/DOWN key, make sure the colour varies accordingly. (Set the key to minimum and be sure that no colour is left on the screen.)

BRIGHTNESS KEY

1. Receive the E-5CH (monoscope pattern) signal.
2. Select the brightness in the picture mode.
3. Using the UP/DOWN key, make sure the black level varies accordingly.

TINT KEY

1. Receive the J-13CH (colour bar) signal.
2. Select the tint in the picture mode.
3. Press the UP key to make sure the tint changes toward green, and the DOWN key toward red.

SHARPNESS KEY

1. Receive the E-5CH (monoscope pattern) signal.
2. Select the sharpness in the picture mode.
3. Using the UP/DOWN key, make sure the sharpness varies accordingly.

PICTURE NORMAL KEY

1. Press the P-NORM key in the picture mode and make sure the adjustment item being displayed on screen comes to its normal setting.
   (The normal settings are as follows.)
   - Contrast: MAX
   - Colour: CENTER
   - Brightness: CENTER
   - Tint: CENTER
   - Sharpness: CENTER

※ If no adjustment item appears on screen, a push on the P-NORM key sets all the contrast, colour, brightness, tint and sharpness to their normal settings.

CHANNEL SIGN DISPLAY COLOUR

Make sure that all the channel signs (1-49) appear in green on the screen (with AFT on).

TREBLE KEY

1. Receive the E-5CH signal.
2. Select the treble in the sound mode.
3. Using the UP/DOWN key, make sure treble sound varies accordingly.

BASS KEY

1. Receive the E-5CH signal.
2. Select the bass in the sound mode.
3. Using the UP/DOWN key, make sure the bass sound varies accordingly.

BALANCE KEY

1. Receive the E-5CH signal.
2. Select the balance in the sound mode.
3. Using the UP/DOWN key, make sure the left-and-right balance varies accordingly.

各控制功能的检查（图象及声音）

对比度控制键

1. 接收E-5频道（单象管图案）信号。
2. 于图象设定状态下，选择对比度设定。
3. 触按上移/下移键，检查对比度是否发生变化。

彩色控制键

1. 接收J-13频道（彩条）信号。
2. 于图象设定状态下，选择彩色设定。
3. 触按上移/下移键，检查彩色是否发生变化。（设彩色控制于最小位置时，画面应完全变为黑色图象）。

亮度控制键

1. 接收E-5频道（单象管图案）信号。
2. 于图象设定状态下，选择亮度设定。
3. 触按上移/下移键，检查黑色电平是否发生变化。

色调控制键

1. 接收J-13频道（彩条）信号。
2. 于图象设定状态下，选择色调设定。
3. 触按上移/下移键，检查色调是否变化如下：连续触按上移键，色调变绿；反之，其色调变红。

鲜明度控制键

1. 接收E-5频道（单象管图案）信号。
2. 于图象设定状态下，选择鲜明度设定。
3. 触按上移/下移键，检查鲜明度是否发生变化。

标准图象设定键

1. 在荧屏上呈现图象表示方式之状态下触按标准图象设定(NOR)键时，只将表示中的内容成为标准设定。
   （各图象表示方式的标准设定如下所示：）
   - ●对比度：最大
   - ●彩色：中央
   - ●亮度：中央
   - ●色调：中央
   - ●鲜明度：中央

※在荧屏上未呈现图象表示方式而触按标准(NOR)键时，对比度、彩色、亮度、色调以及鲜明度均自动地选定标准设定。

频道代号表示色

所有频道(1～49)代号的表示色均为绿色
(AFT ON之状态时)

高音输出控制键

1. 接收E-5频道信号。
2. 在声音设定状态下，选择高音调节状态。
3. 触按上移/下移键，检查高频段声音输出是否发生变化。

低音输出控制键

1. 接收E-5频道信号。
2. 在声音设定状态下，选择低音调节状态。
3. 触按上移/下移键，检查低频段声音输出是否发生变化。

左右平衡控制键

1. 接收E-5频道信号。
2. 在声音设定状态下，选择左右声道平衡调节状态。
3. 触按上移/下移键，检查左右声道输出强弱是否发生变化。

FUNCTION CHECK (PICTURE AND SOUND) (Continued)

SOUND NORMAL KEY

Press the S-NORM key in the sound mode and make sure the adjustment item being displayed on screen comes to its normal setting.
(The normal settings are as follows.)

- Treble: CENTER
- Bass: CENTER
- Balance: CENTER

※ If no adjustment item appears on screen, a push on the S-NORM key sets all the treble, bass and balance to their normal settings.

COLOUR SYSTEM KEY

1. Receive the E-12CH (PAL colour bar) signal. Using the COLOUR SYSTEM key, select the PAL or AUTO mode and make sure the colour system functions well.
2. Receive the E-10CH (SECAM colour bar) signal. Using the COLOUR SYSTEM key, select the SECAM or AUTO mode and make sure the colour system functions well.
3. Receive the E-37CH (NTSC4.43 colour bar) signal. Using the COLOUR SYSTEM key, select the N4.43 or AUTO mode and make sure the colour system functions well.
4. Receive the JA-8CH (NTSC3.58 colour bar) signal. Using the COLOUR SYSTEM key, select the N3.58 or AUTO mode and make sure the colour system functions well.

Note:
For the E-4, E-37, J-38 and E-64 special signals, keep in mind that normal colour and sound are not obtained in the AUTO mode. (Do the checking in the forced mode.)

SOUND SYSTEM KEY

1. Receive the OI-9CH (colour bar) signal. Using the SOUND SYSTEM key, select D/K (6.5 MHz) and make sure the sound is heard normally.
2. Receive the E-23CH (monoscope pattern) signal. Using the SOUND SYSTEM key, select I (6.0 MHz) and make sure the sound is heard normally.
3. Receive the E-12CH (colour bar) signal. Using the SOUND SYSTEM key, select B/G (5.5 MHz) and make sure the sound is heard normally.
4. Receive the JA-8CH (colour bar) signal. Using the SOUND SYSTEM key, select M (4.5 MHz) and make sure the sound is heard normally.

Note:
The changes for (1) 5.5 MHz and (2) 6.5 MHz are small.

SURROUND KEY

1. Receive the E-5CH music broadcast signal.
2. Using the SURROUND key, make sure the surround modes change as follows.
   - SURROUND OFF: ↓
   - MUSIC: ↓
   - MOVIE: ↓
   - WIDE: ↓
3. Set to the WIDE mode and make sure the sound from the speakers gives an affluent feeling.

各控制功能的检查（图象及声音）（接上页）

标准声音输出设定键

在声音设定状态下，指定设定项目后，触按标准设定键，则意该项目为标准输出设定。
（各声音项目选择的标准设定如下：）

- ●高音： 中央
- ●低音： 中央
- ●平衡： 中央

※不指定设定项目时，高音、低音及平衡的项目选择均为标准输出设定。

彩色制式选择键

1. 接收E-12频道（PAL制式彩条）信号。连续触按彩色制式选择键以选择PAL或自动制式的画面彩色表示。检查其画面彩色表示为正常。
2. 接收E-10频道（SECAM制式彩条）信号。连续触按彩色制式选择键以选择SECAM或自动制式的画面彩色表示。检查其画面彩色表示为正常。
3. 接收E-37频道（NTSC4.43制式彩条）信号。连续触按彩色制式选择键以选择NTSC4.43或自动制式的画面彩色表示。检查其画面彩色表示为正常。
4. 接收JA-8频道（NTSC3.58制式彩条）信号。连续触按彩色制式选择键以选择NTSC3.58或自动制式的画面彩色表示。检查其画面彩色表示为正常。

注意：
对E-4、E-37、J-38及E-64频道的特殊彩色信号，于自动调节状态时的色彩表示以及声音输出不会正常，请加以留意。（用强制调节方式进行检查）。

声音制式选择键

1. 接收OI-9频道(彩条）信号。连续触按声音制式选择键选择D/K(6.5MHz)制式时，检查声音输出是否为正常。
2. 接收E-23频道(单象管图案）信号。连续触按声音制式选择键选择I(6.0MHz)制式时，检查声音输出是否为正常。
3. 接收E-12频道（彩条）信号。连续触按声音制式选择键选择B/G(5.5MHz)制式时，检查声音输出是否为正常。
4. 接收JA-8频道（彩条）信号。连续触按声音制式选择键选择M(4.5MHz)制式时，检查声音输出是否为正常。

注意：
检查步骤1.的5.5MHz以及步骤2.的6.5MHz时，应注意其声音输出的变化很小。

环场音响方式选择键

1. 接收E-5频道“音乐广播”信号。
2. 连续触按环场音响方式选择键数次时，环场音响方式应按下述所列顺序循环变化：
   - ●无环场音响： ↓
   - ●音乐环场音响： ↓
   - ●影剧环场音响： ↓
   - ●广域环场音响： ↓
3. 于广域环场音响设定之场合，检查场声器的音响是否有一种广阔、飘然之效果。

A/V INPUT AND OUTPUT CHECK

AUDIO/VIDEO OUTPUT CHECK

1. Receive the E-12CH colour bar signal (100% white colour bar, sound: 400 Hz, 100% mod.).
2. Terminate the video output with a 75-ohm impedance. Make sure the output is as specified (1.0 Vp-p ± 3 dB).
3. Terminate the audio output with a 10-kohm impedance. Make sure the output is as specified (1.76 Vp-p ± 3 dB).

AUDIO/VIDEO INPUT CHECK

1. Using the TV/AV key on the remote controller, make sure that the modes change in the order of TV, AV1, AV2 and TV again and that the video and audio outputs are according to the input and output terminals for each mode.

音频/视频输入、输出的检查

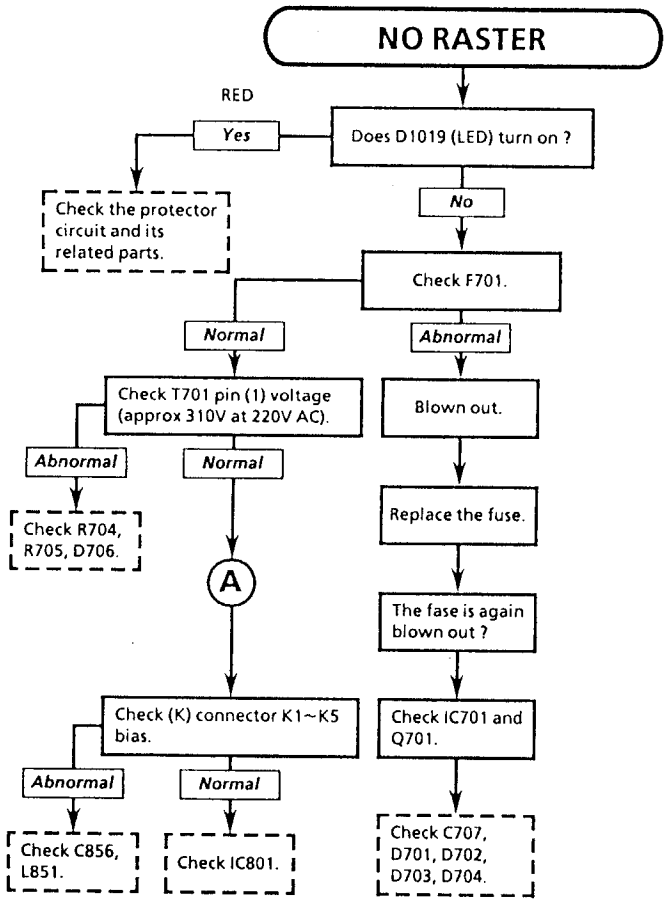
音频/视频输出的检查

1. 接收E-12频道“彩条”信号(100%白色彩条，声音：400Hz、100%调制)。
2. 检查视频信号输出端的电阻为75Ω时的信号强度是否满足标准值的1.0Vp-p ± 3dB的规定要求。
3. 检查音频信号输出端的电阻为10kΩ时的信号强度是否满足标准值的1.76Vp-p ± 3dB的规定要求。

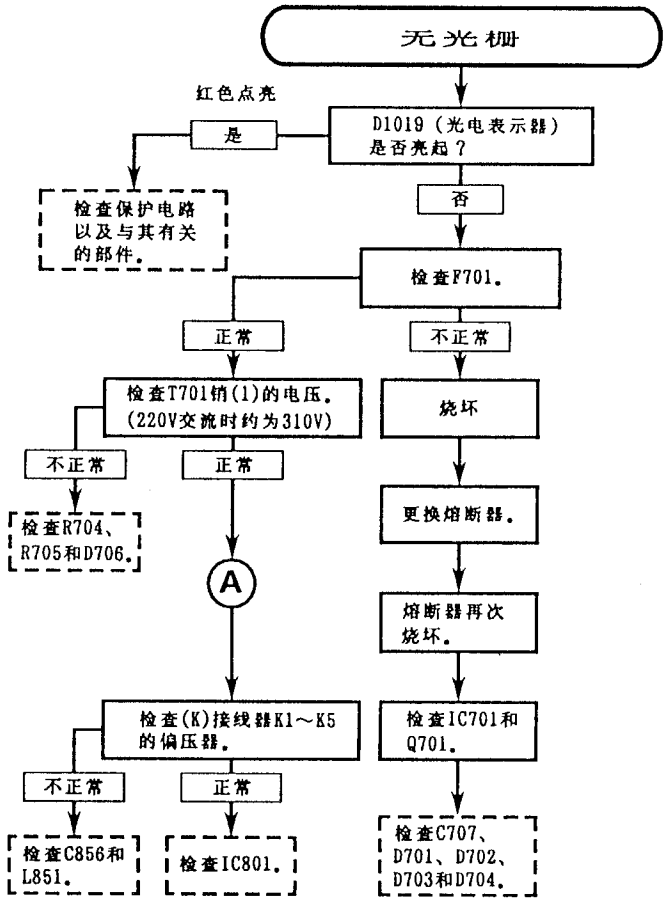
音频/视频输入的检查

1. 相继触按遥控器上的电视与录象切换(TV/AV)键，检查电视机信号输入频道是否按电视频道(TV)，录象1频道(AV1)、录象2频道(AV2)以及电视频道(TV)的顺序循环切换。并且，检查每一设定时的荧屏图象以及声音输出是否正常地与设定输入频道对应。

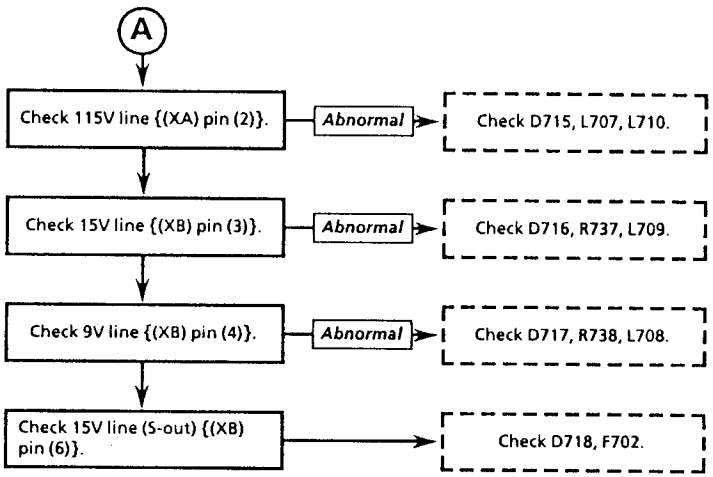
TROUBLE SHOOTING TABLE



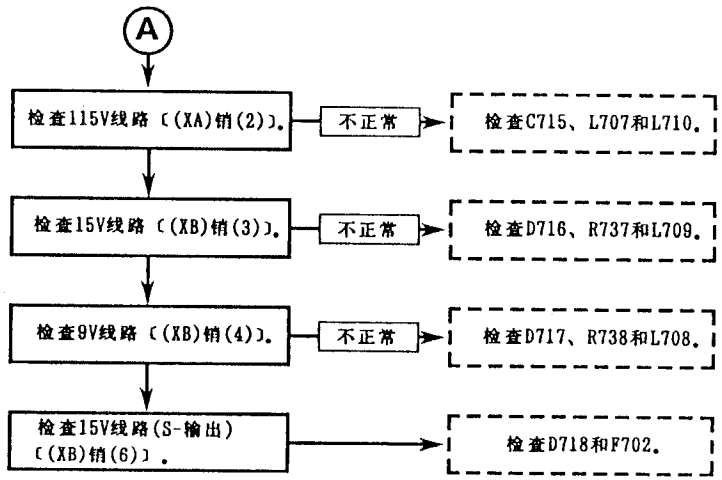
故障检修表



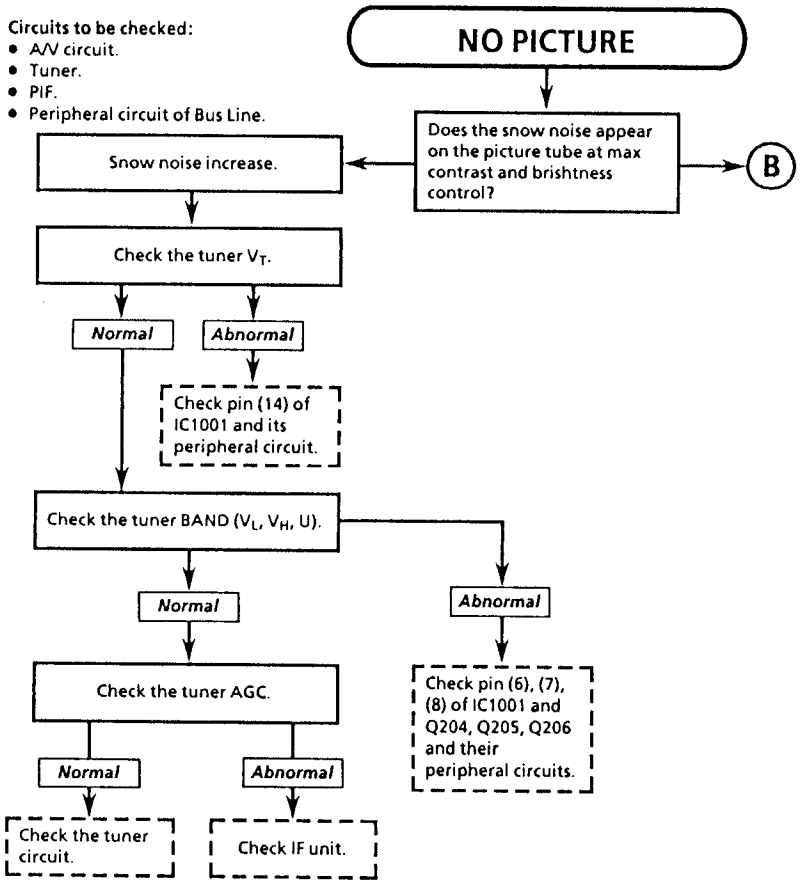
TROUBLE SHOOTING TABLE (Continued)



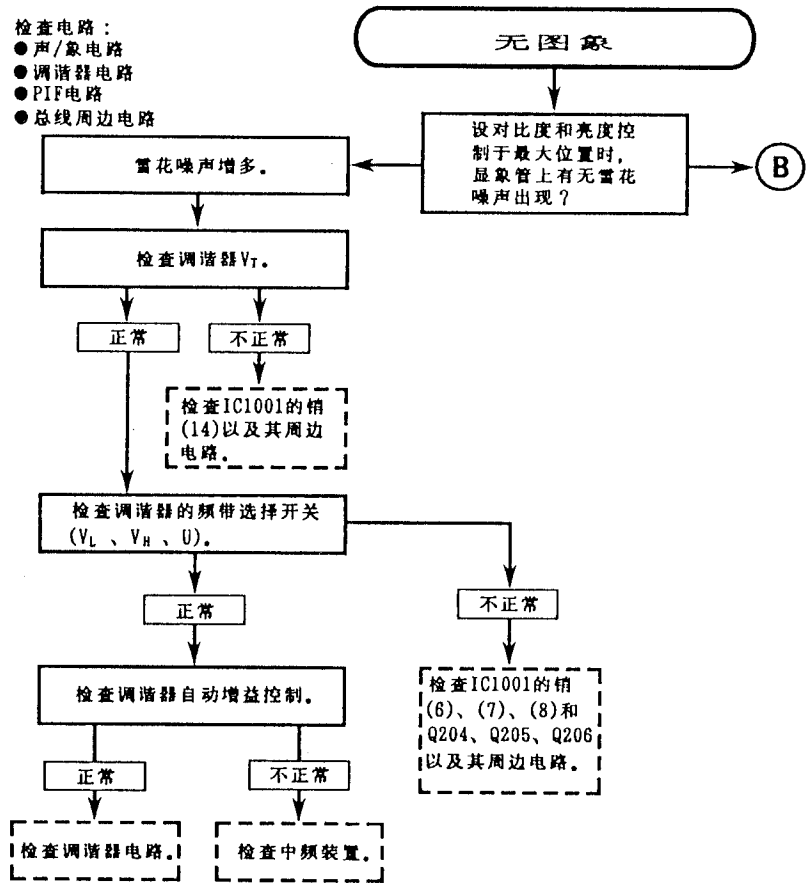
故障检修表(接上页)



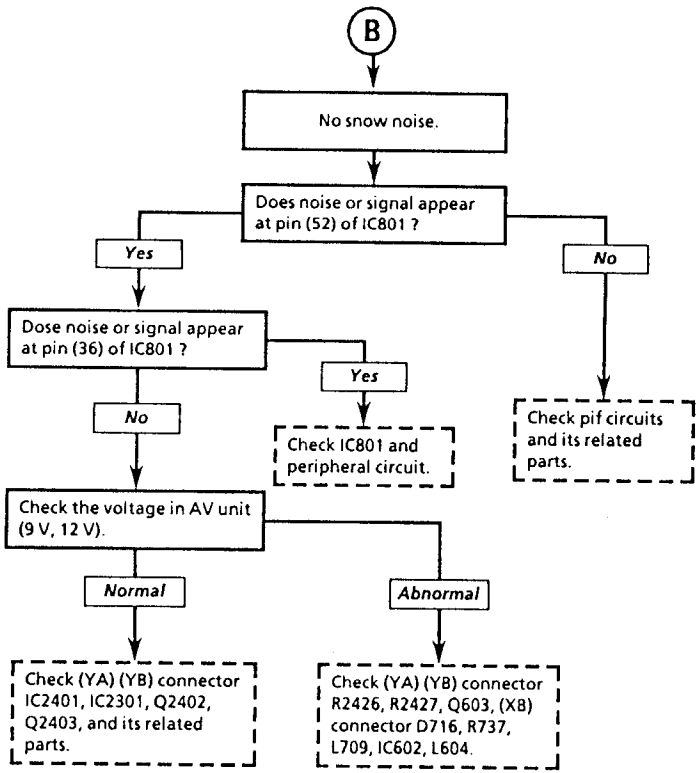
TROUBLE SHOOTING TABLE (Continued)


Circuits to be checked:
• A/V circuit.
• Tuner.
• PIF.
• Peripheral circuit of Bus Line.
NO PICTURE
Does the snow noise appear on the picture tube at max contrast and brishtness control?
B
Snow noise increase.
Check the tuner V_T.
Normal
Abnormal
Check pin (14) of IC1001 and its peripheral circuit.
Check the tuner BAND (V_L, V_H, U).
Normal
Abnormal
Check pin (6), (7), (8) of IC1001 and Q204, Q205, Q206 and their peripheral circuits.
Check the tuner AGC.
Normal
Abnormal
Check the tuner circuit.
Check IF unit.

故障检修表(接上页)

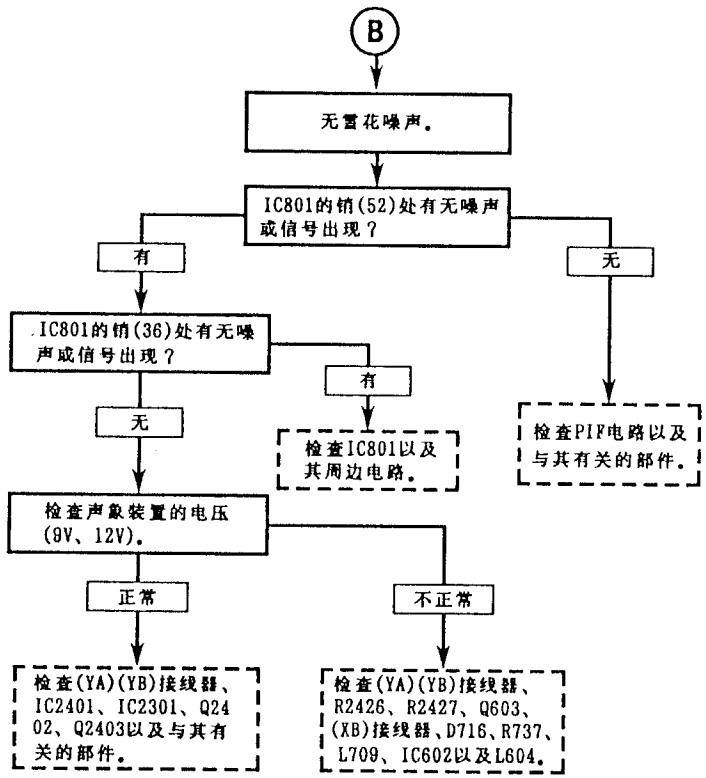


TROUBLE SHOOTING TABLE (Continued)


B
No snow noise.
Does noise or signal appear at pin (52) of IC801 ?
Yes
No
Dose noise or signal appear at pin (36) of IC801 ?
Yes
No
Check IC801 and peripheral circuit.
Check pif circuits and its related parts.
Check the voltage in AV unit (9 V, 12 V).
Normal
Abnormal
Check (YA) (YB) connector IC2401, IC2301, Q2402, Q2403, and its related parts.
Check (YA) (YB) connector R2426, R2427, Q603, (XB) connector D716, R737, L709, IC602, L604.

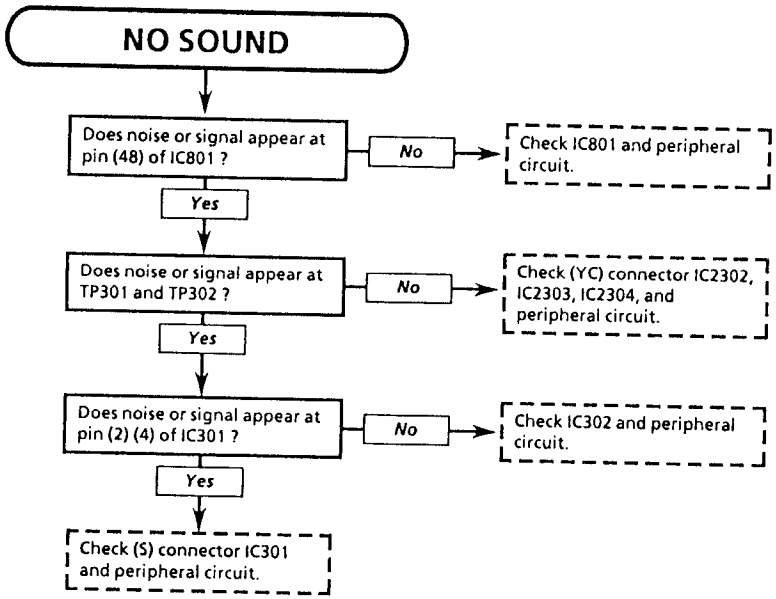
E31

故障检修表（接上页）

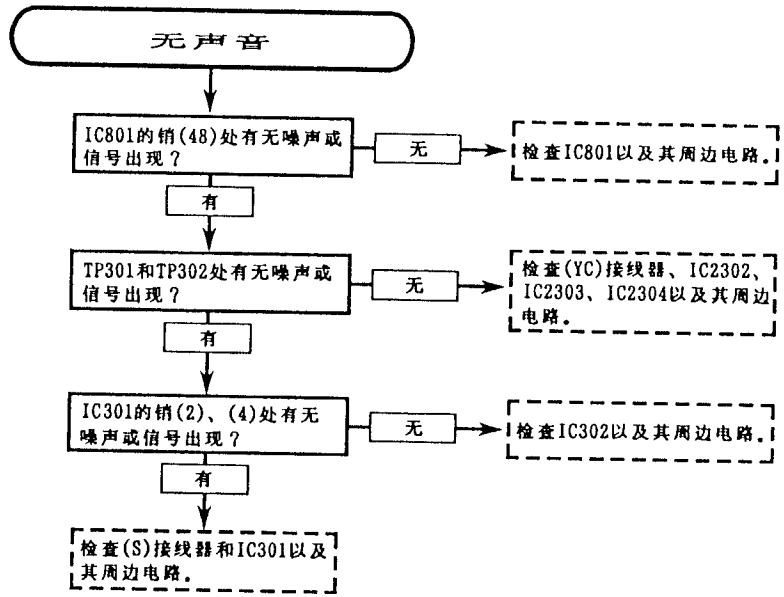


C31

TROUBLE SHOOTING TABLE (Continued)


NO SOUND
Does noise or signal appear at pin (48) of IC801 ?
No
Check IC801 and peripheral circuit.
Yes
Does noise or signal appear at TP301 and TP302 ?
No
Check (YC) connector IC2302, IC2303, IC2304, and peripheral circuit.
Yes
Does noise or signal appear at pin (2) (4) of IC301 ?
No
Check IC302 and peripheral circuit.
Yes
Check (S) connector IC301 and peripheral circuit.

故障检修表（接上页）



TROUBLE SHOOTING TABLE (Continued)

NEITHER VERTICAL NOR HORIZONTAL SYNCHRONIZATION

CIRCUIT TO BE CHECKED:
- Sync. Separator Circuit.

Check IC801.

DEFECTIVE VERTICAL AMP. AND VERTICAL LINEARITY

Readjust vertical size.

- Vertical size is abnormal. → Check R528, R527, C525.
- Vertical linearity is abnormal. → Check C506, R521, R523 and R520.

NO VERTICAL SCAN

Check IC501 bias.

- *Normal* → Check C505.
- *Abnormal* → Check IC501.

E33

故障检修表（接上页）

无垂直同步信号和水平同步信号

检查电路：
- 同步分离电路

检查IC801。

垂直放大及垂直线性度异常

重调垂直尺寸。

- 垂直尺寸不符规定要求。 → 检查R528、R527和C525。
- 垂直线性度不符规定要求。 → 检查C506、R521、R523和R520。

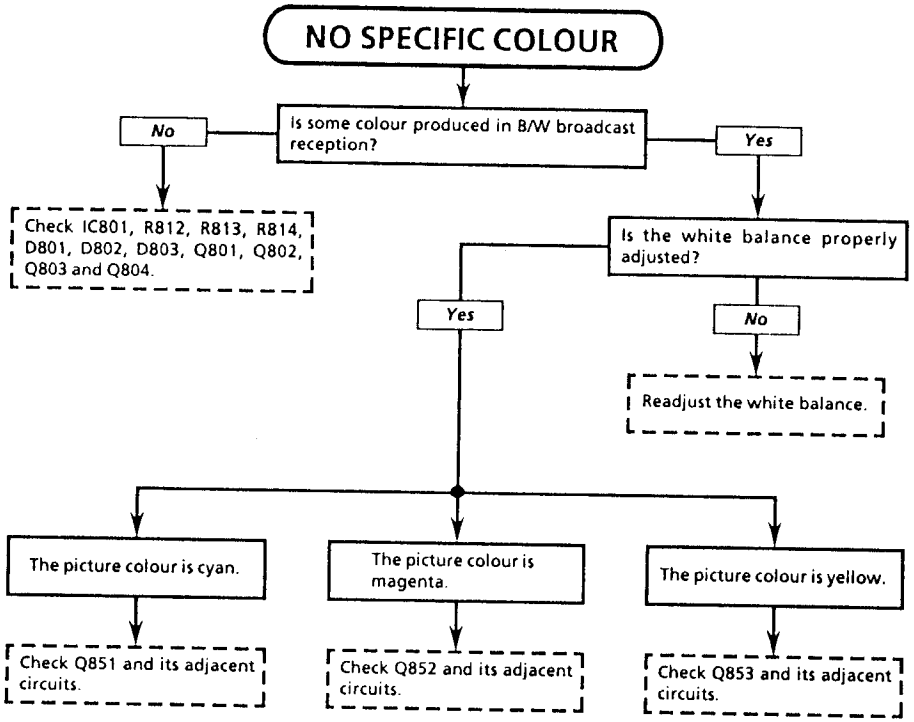
无垂直扫描

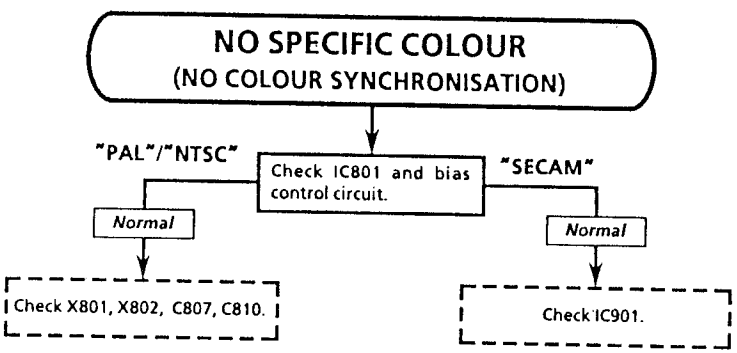
检查IC501偏压器。

- 正常 → 检查C505。
- 不正常 → 检查IC501。

C33

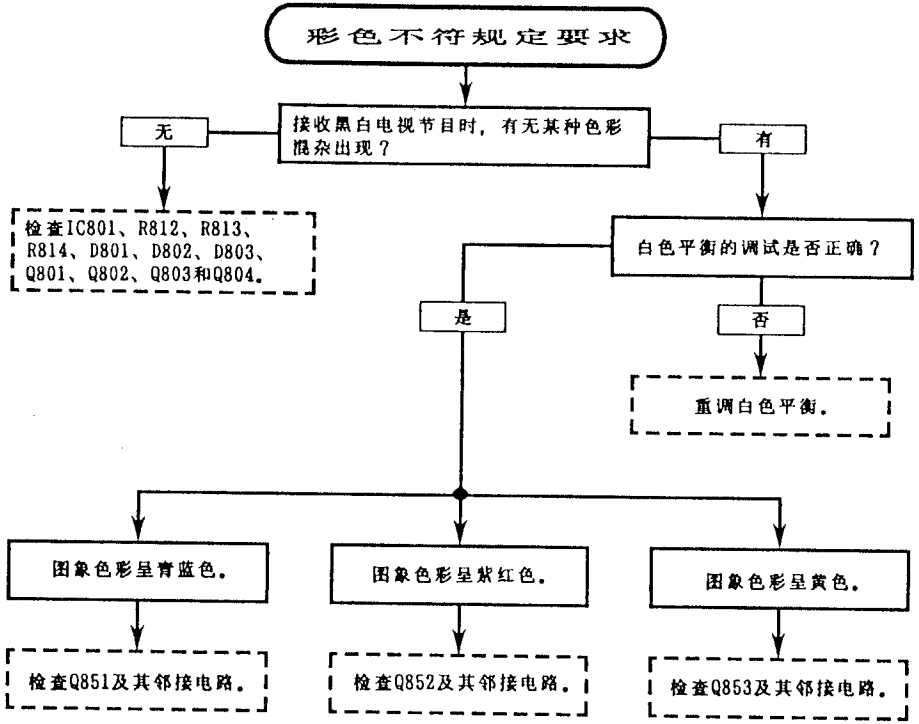
TROUBLE SHOOTING TABLE (Continued)

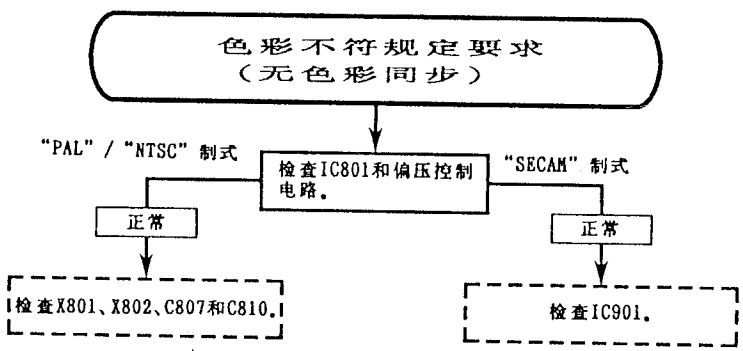

NO SPECIFIC COLOUR
Is some colour produced in B/W broadcast reception?
No
Yes
Check IC801, R812, R813, R814, D801, D802, D803, Q801, Q802, Q803 and Q804.
Is the white balance properly adjusted?
Yes
No
Readjust the white balance.
The picture colour is cyan.
The picture colour is magenta.
The picture colour is yellow.
Check Q851 and its adjacent circuits.
Check Q852 and its adjacent circuits.
Check Q853 and its adjacent circuits.



E34

故障检修表（接上页）



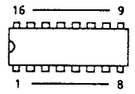


C34

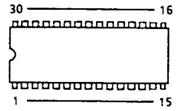
SOLID STATE DEVICE BASE DIAGRAM
固体器件基座图

TOP VIEW 俯视图

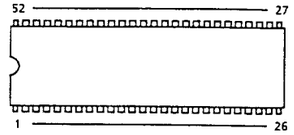
iX2448CE
UPC358C



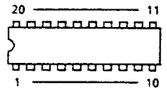
iX1779CE
M5325SP
U3660M



UPC1853C

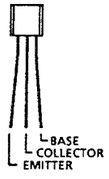


iX2504CE
M52315SP

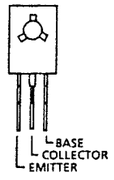


M52317SP

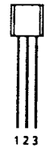
SIDE VIEW 侧视图



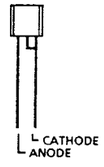
2SA1015
2SC1906
2SC383
2SC945



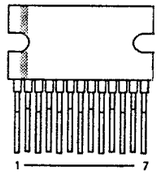
2SA715



PST529C2

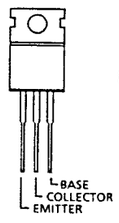


iX0037CE

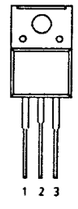


TDA7057Q

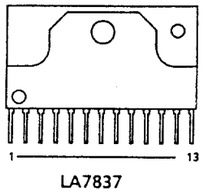
2SC3399



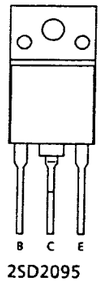
2SD880



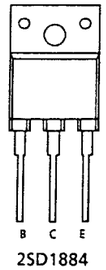
TA7809S



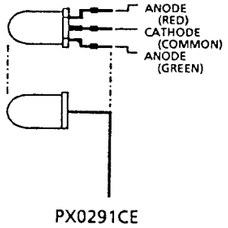
LA7837



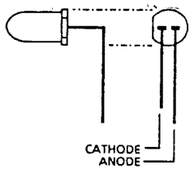
2SD2095



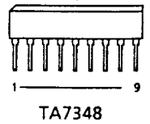
2SD1884



PX0291CE



PX0274CE

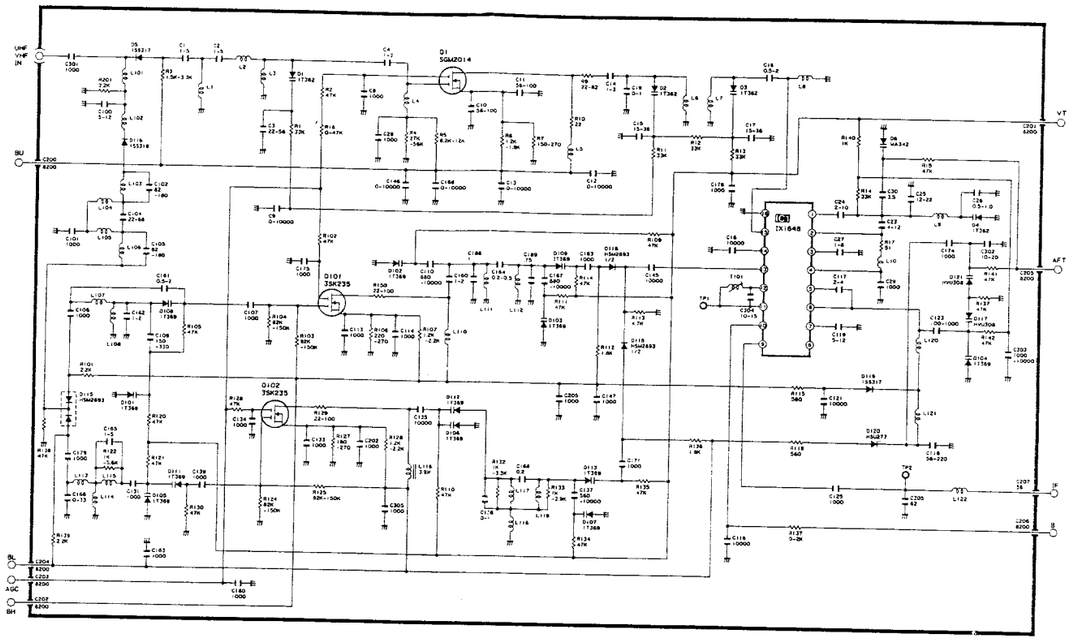


TA7348

■ Tuner 调谐器

NOTE: The parts here shown are supplied as an assembly but not independently.
注意：在更换零件订货时，请以一套为最小单位，切勿以单件订货。

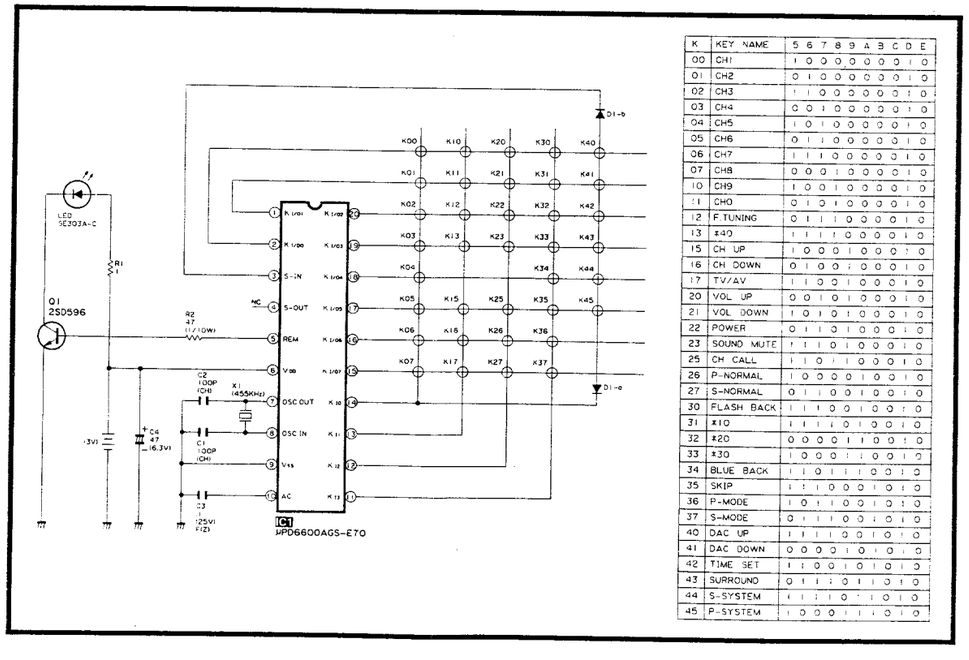
⚠ VTUVTSH6HD04/



■ Infrared Remote Control Unit 红外线遥控器

NOTE: The parts here shown are supplied as an assembly but not independently.
注意：在更换零件订货时，请以一套为最小单位，切勿以单件订货。

RRMCG1085PESA

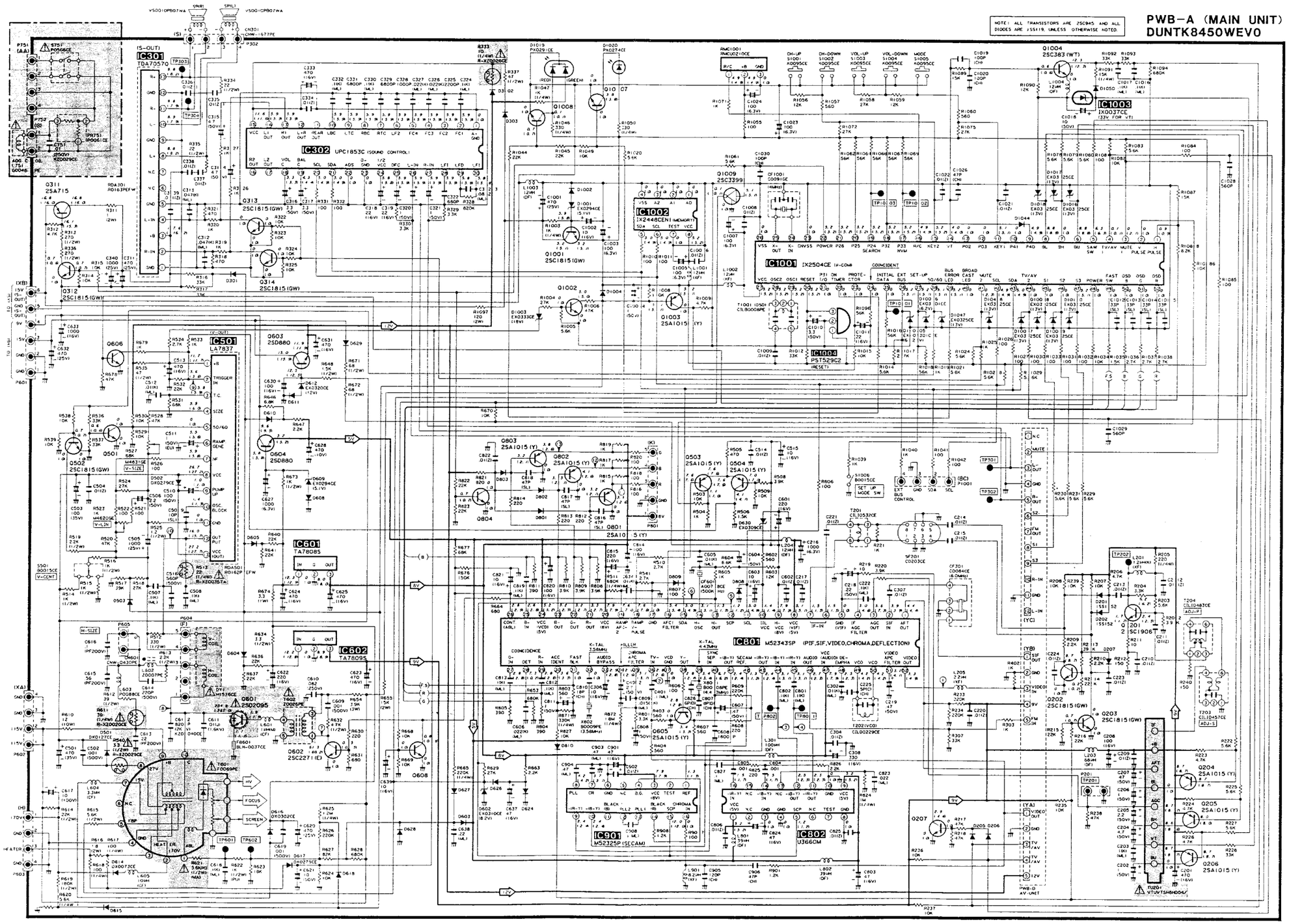


K	KEY NAME	5	6	7	8	9	A	B	C	D	E
00	CH1	1	0	0	0	0	0	0	0	1	0
01	CH2	0	1	0	0	0	0	0	0	1	0
02	CH3	1	1	0	0	0	0	0	0	1	0
03	CH4	0	0	1	0	0	0	0	0	1	0
04	CH5	1	0	1	0	0	0	0	0	1	0
05	CH6	0	1	1	0	0	0	0	0	1	0
06	CH7	1	1	1	0	0	0	0	0	1	0
07	CH8	0	0	0	1	0	0	0	0	1	0
10	CH9	1	0	0	1	0	0	0	0	1	0
11	CH0	0	1	0	1	0	0	0	0	1	0
12	F.TUNING	0	1	1	1	0	0	0	0	1	0
13	±10	1	1	1	1	0	0	0	0	1	0
15	CH UP	1	0	0	0	1	0	0	0	1	0
16	CH DOWN	0	1	0	0	1	0	0	0	1	0
17	TV/AV	1	1	0	0	1	0	0	0	1	0
20	VOL UP	0	0	1	0	1	0	0	0	1	0
21	VOL DOWN	1	0	1	0	1	0	0	0	1	0
22	POWER	0	1	1	0	1	0	0	0	1	0
23	SOUND MUTE	1	1	1	0	1	0	0	0	1	0
25	CH CALL	1	1	0	1	1	0	0	0	1	0
26	P-NORMAL	1	0	0	0	0	1	0	0	1	0
27	S-NORMAL	0	1	1	0	0	1	0	0	1	0
30	FLASH BACK	1	1	1	1	0	0	1	0	1	0
31	±10	1	1	1	1	1	0	0	0	1	0
32	±20	0	0	0	0	1	1	0	0	1	0
33	±30	1	1	0	0	1	1	0	0	1	0
34	BLUE BACK	1	1	0	1	1	1	0	0	1	0
35	SKIP	1	1	1	1	0	0	1	0	1	0
36	P-MODE	1	0	1	1	0	0	1	0	1	0
37	S-MODE	0	1	1	1	0	0	1	0	1	0
40	DAC UP	1	1	1	1	0	1	0	0	1	0
41	DAC DOWN	0	0	0	0	1	0	1	0	1	0
42	TIME SET	1	1	0	0	1	0	1	0	1	0
43	SURROUND	0	1	1	1	0	1	1	0	1	0
44	S-SYSTEM	1	1	1	1	0	1	1	0	1	0
45	P-SYSTEM	1	0	0	0	1	1	1	0	1	0

SCHEMATIC DIAGRAM ■ Main Unit

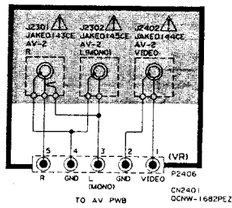
电路原理图 ■主电路装置

PWB—A (MAIN UNIT)
DUNTK8450WEVO

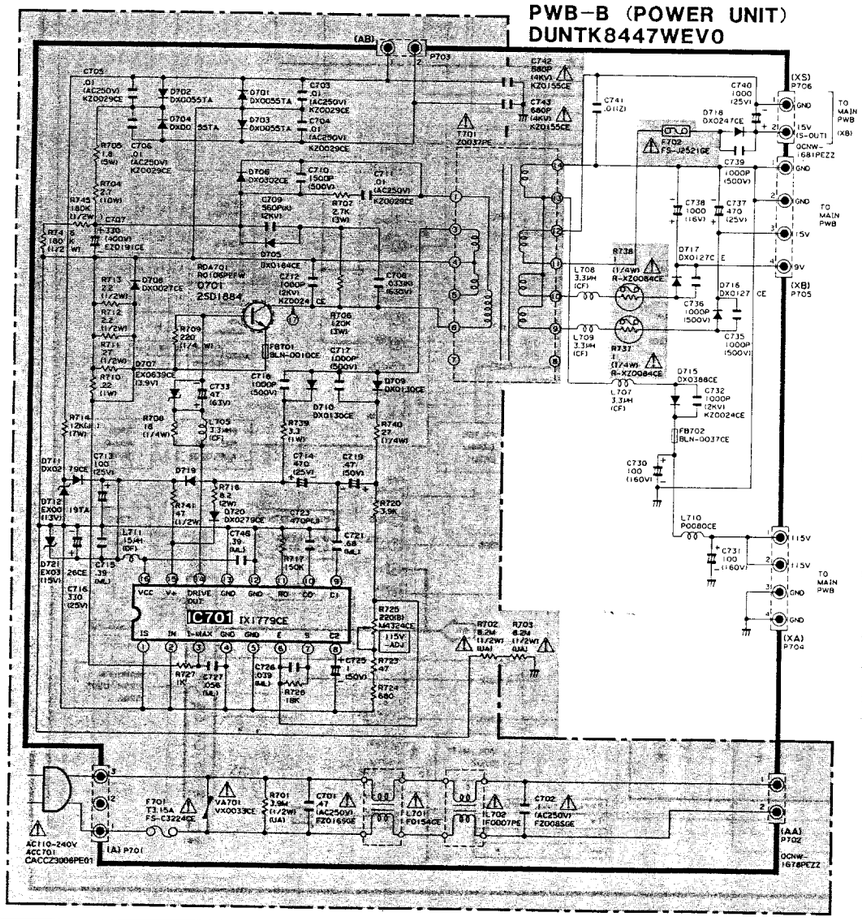


SCHEMATIC DIAGRAM ■ Sub Unit
电路原理图 ■副电路装置

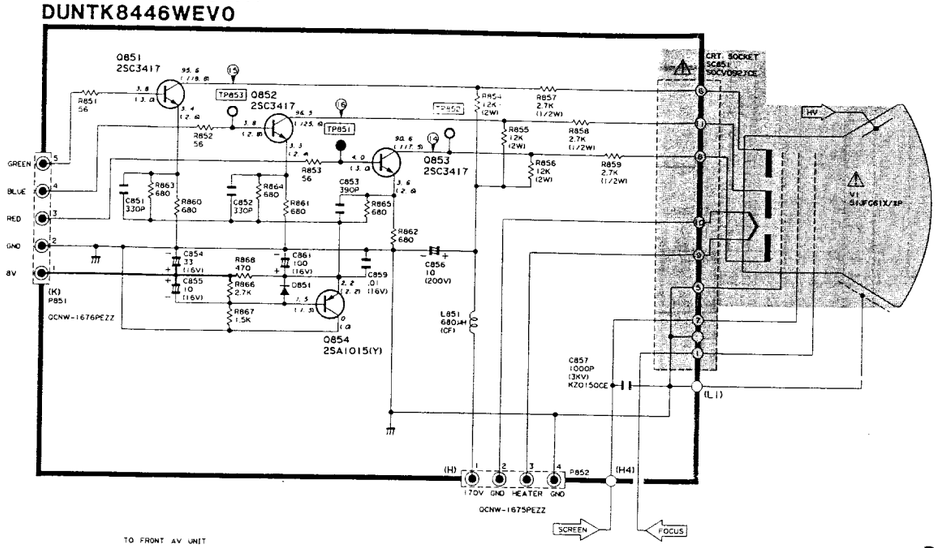
PWB-E (FRONT AV UNIT)
DUNTK8449WEV0



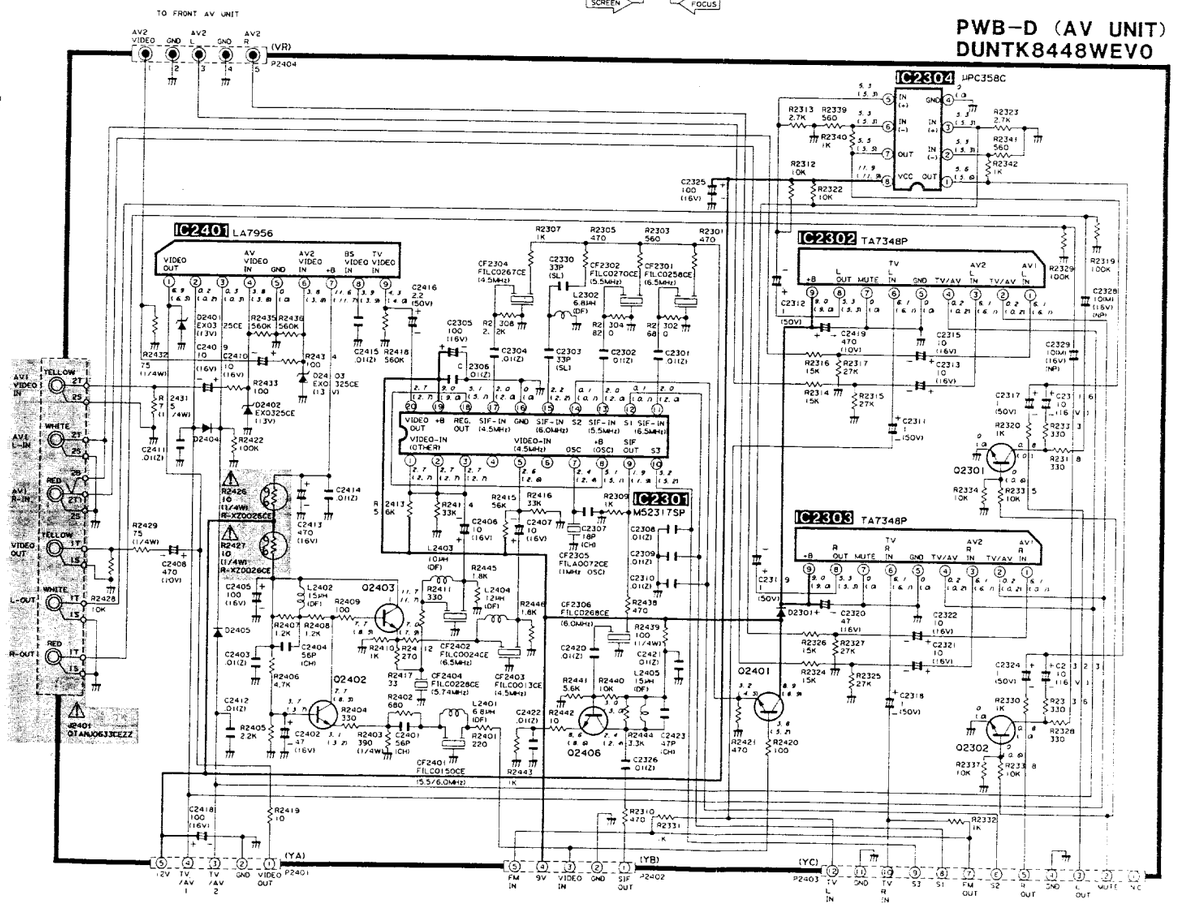
PWB-B (POWER UNIT)
DUNTK8447WEV0



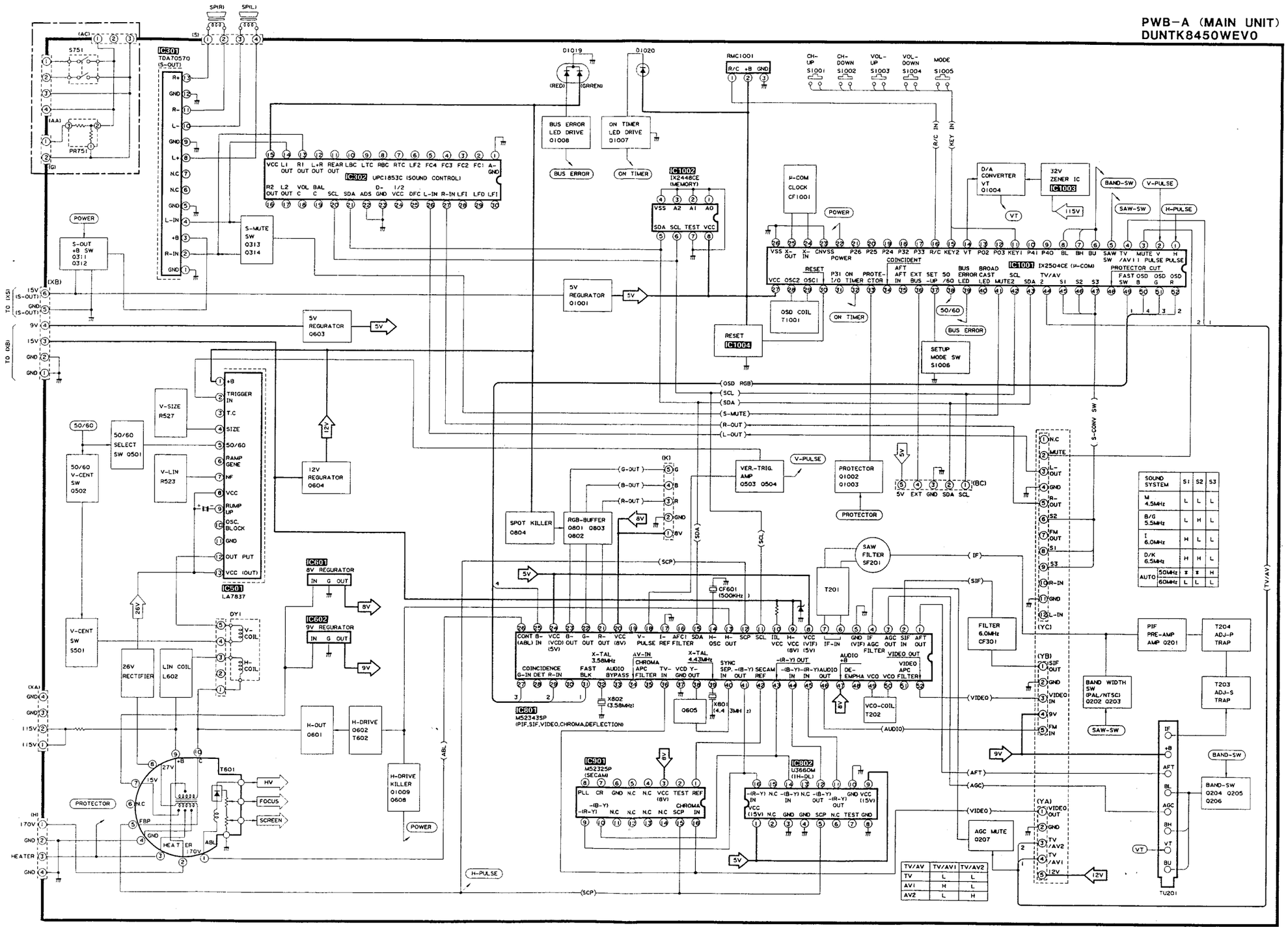
PWB-C (CRT UNIT)
DUNTK8446WEV0



PWB-D (AV UNIT)
DUNTK8448WEV0

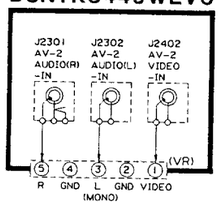


OVERALL BLOCK DIAGRAM
整体电路方框图

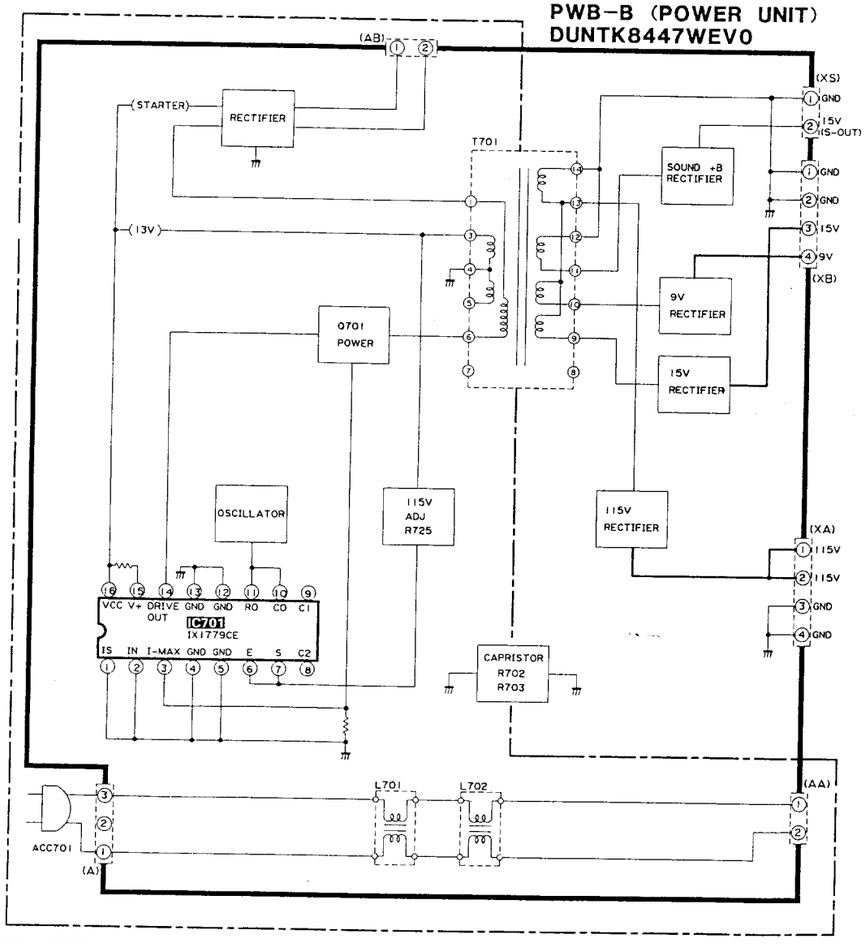


OVERALL BLOCK DIAGRAM
整体电路方框图

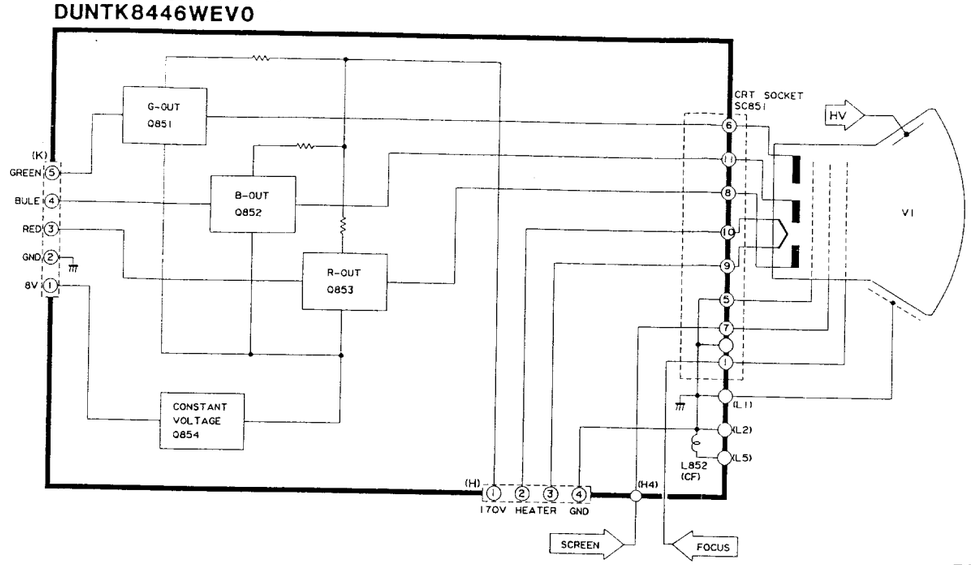
PWB-E (FRONT AV UNIT)
DUNTK8449WEV0



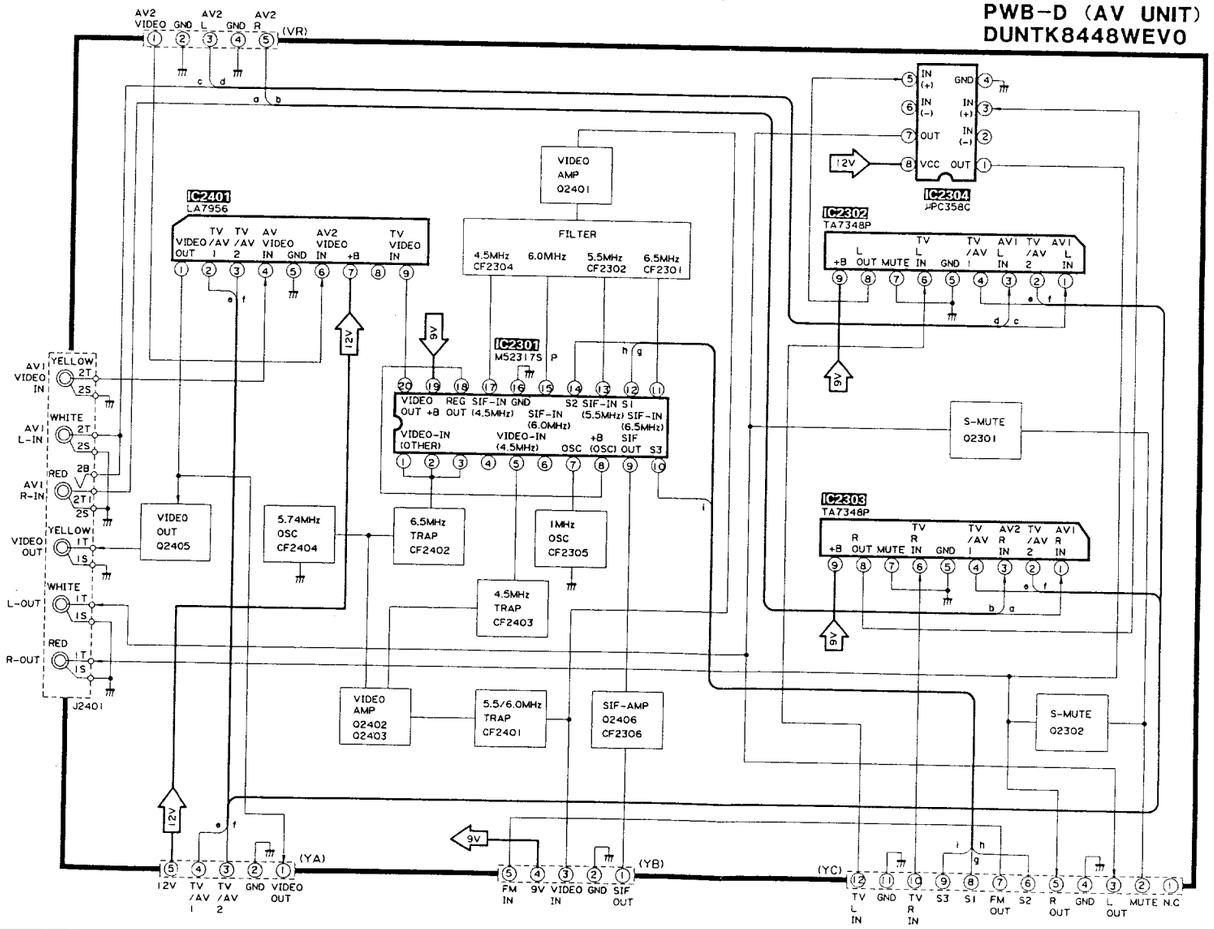
PWB-B (POWER UNIT)
DUNTK8447WEV0



PWB-C (CRT UNIT)
DUNTK8446WEV0



PWB-D (AV UNIT)
DUNTK8448WEV0



PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual: electrical components having such features are identified by "⚠" in the Replacement Parts Lists.
The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION
5. CODE 6. QUANTITY

MARK ★: SPARE PARTS-DELIVERY SECTION.

更换零件表

更换零件

本维修说明书对具有特别安全要求的零件均用标记加以识别。在此更换零件表中，具有特别安全要求的电路元件均用⚠标记以便注意识别。更换零件时，为了用户的安全以及电视机原有的工作性能，务请使用夏普规定零件。否则，可能有导致触电、火灾或其他不测事故发生的可能。

更换零件的订货方法

为了能迅速而确实地接受订货、以及正确无误地按时交货，在订货时请将下列各项明确告知。

1. 型号 2. 参考编号
3. 零件编号 4. 零件名称
5. 代号 6. 数量

附★记号为备用部件的交货部门

Ref. No.	Part No.	★	Description	Code

PICTURE TUBE

⚠ V1	VB51JFC61X/*P	J	CRT, 51cm (21")	CK
⚠ DY1	RCiLH1576CEZZ	J	Deflection Yoke	BD
⚠ L751	RCiLG0046PEZZ	R	Degaussing (ADG) Coil	AQ
	LHLDW0003PEKZ	R	ADG Coil Holder, ×4 used	AB
	PMAGF3003CEZZ	J	Purity Magnet	AK
	PSPAG0003PEZZ	R	Wedge, Rubber, ×3 used	AD
	MSPRT0001PEFJ	R	CRT Spring	AC

End of PICTURE TUBE

PRINTED WIRING BOARD ASSEMBLIES
(*NOT REPLACEMENT ITEM*)

PWB-A	DUNTK8450WEV0	–	Main Unit	—
PWB-B	DUNTK8447WEV0	–	Power Unit	—
PWB-C	DUNTK8446WEV0	–	CRT Socket Unit	—
PWB-D	DUNTK8448WEV0	–	AV Unit	—
PWB-E	DUNTK8449WEV0	–	Front AV Unit	—

End of P.W.B. ASSEMBLIES

PWB-A DUNTK8450WEV0
MAIN UNIT

TUNER

NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.

⚠ TU201	VTUVTSH6HD04/	R	Tuner, VHF/UHF	BG

INTEGRATED CIRCUITS

IC301	VHiTDA7057Q-1	J	Sound Output	AV
IC302	VHiUPC1853C-1	J	Sound Control	AX
IC501	VHiLA7837//-1	J	Vertical Output	AH
IC601	VHiTA7808S/-1	J	8V Regulator	AD
IC602	VHiTA7809S/-1	J	9V Regulator	AE
IC801	VHiM52343SP-1	R	PIF/SIF/Video/Chroma/Def.	BD
IC802	VHiU3660M-B-1	R	1H-DL	AR
IC901	VHiM52325P/-1	R	SECAM	AV
IC1001	RH-iX2504CEZZ	R	Microprocessor	BA
IC1002	RH-iX2448CEN1	J	Memory	AN
IC1003	RH-iX0037CEZZ	J	Zener IC, 32V	AF
IC1004	VHiPST529C2-1	J	Reset IC	AD

TRANSISTORS

Q201	VS2SC1906//1E	J	2SC1906	AC
Q202	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q203	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q204	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q205	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q206	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q207	VS2SC945AP/-1	J	2SC945A(P)	AB
Q311	VS2SA715-C/-A	J	2SA715	AF

Ref. No.	Part No.	★	Description	Code

PWB-A DUNTK8450WEV0
MAIN UNIT (Continued)

TRANSISTORS(Continued)

Q312	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q313	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q314	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q501	VS2SC945AP/-1	J	2SC945A(P)	AB
Q502	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q503	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q504	VS2SA1015Y/1E	J	2SA1015(Y)	AC
⚠ Q601	VS2SD2095//1E	J	2SD2095	AN
Q602	VS2SC2271E/-1	J	2SC2271(E)	AD
Q603	VS2SD880-G/-1	J	2SD880	AF
Q604	VS2SD880-G/-1	J	2SD880	AF
Q605	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q606	VS2SC945AP/-1	J	2SC945A(P)	AB
Q608	VS2SC945AP/-1	J	2SC945A(P)	AB
Q801	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q802	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q803	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q804	VS2SC945AP/-1	J	2SC945A(P)	AB
Q1001	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q1002	VS2SC945AP/-1	J	2SC945A(P)	AB
Q1003	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q1004	VS2SC383-WT-1	J	2SC383(WT)	AE
Q1007	VS2SC945AP/-1	J	2SC945A(P)	AB
Q1008	VS2SC945AP/-1	J	2SC945A(P)	AB
Q1009	VS2SC3399//-1	J	2SC3399	AB

DIODES

D201	VHD1SS152//-1	J	1SS152	AB
D202	VHD1SS152//-1	J	1SS152	AB
D205	VHD1SS119//1E	J	1SS119	AA
D206	VHD1SS119//1E	J	1SS119	AA
D207	VHD1SS119//1E	J	1SS119	AA
D301	VHD1SS119//1E	J	1SS119	AA
D302	VHD1SS119//1E	J	1SS119	AA
D303	VHD1SS119//1E	J	1SS119	AA
D501	RH-DX0127CEZZ	J		AC
D502	RH-DX0279CEZZ	J		AB
D503	VHD1SS119//1E	J	1SS119	AA
D602	RH-EX0310CEZZ	J	Zener Diode, 8.2V	AA
D603	VHD1SS119//1E	J	1SS119	AA
D604	VHD1SS119//1E	J	1SS119	AA
D605	VHD1SS119//1E	J	1SS119	AA
D608	VHD1SS119//1E	J	1SS119	AA
D609	RH-EX0294CEZZ	J	Zener Diode, 5.1V	AA
D610	VHD1SS119//1E	J	1SS119	AA
D611	VHD1SS119//1E	J	1SS119	AA
D612	RH-EX0320CEZZ	J	Zener Diode, 12V	AA
D614	RH-DX0073CEZZ	J		AD
D615	VHD1SS119//1E	J	1SS119	AA
D616	RH-DX0302CEZZ	J		AC

Ref. No.	Part No.	★	Description	Code

DIODES (Continued)

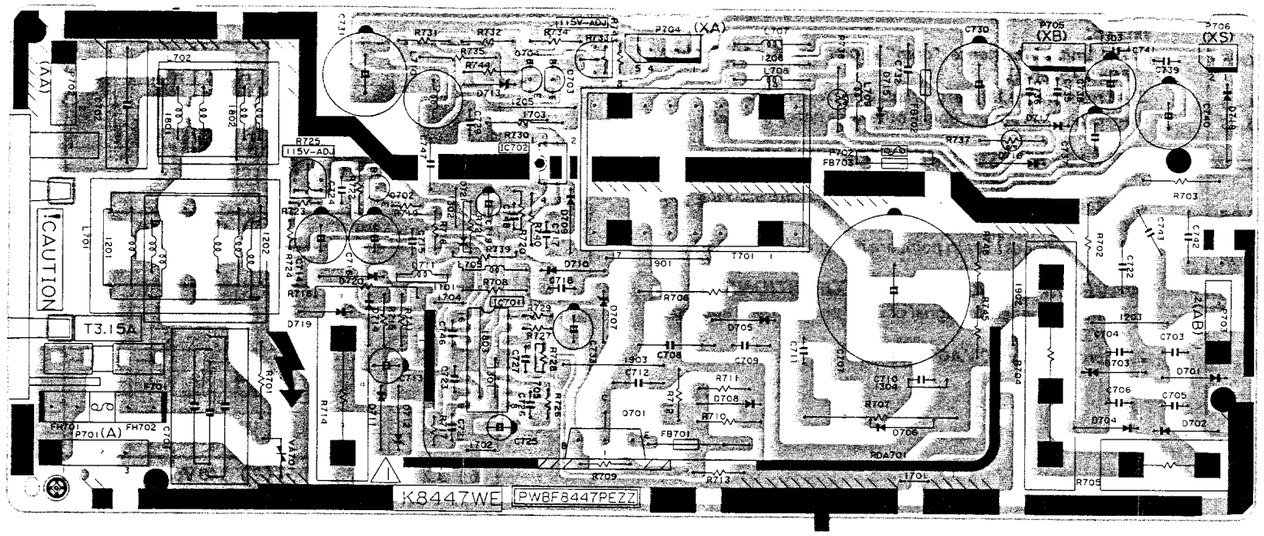
D617	RH-DX0279CEZZ	J		AB
D618	VHD1SS119//1E	J	1SS119	AA
D624	VHD1SS119//1E	J	1SS119	AA
D626	VHD1SS119//1E	J	1SS119	AA
D627	VHD1SS119//1E	J	1SS119	AA
D628	VHD1SS119//1E	J	1SS119	AA
D629	VHD1SS119//1E	J	1SS119	AA
D630	RH-EX0309CEZZ	J	Zener Diode	AA
D801	VHD1SS119//1E	J	1SS119	AA
D802	VHD1SS119//1E	J	1SS119	AA
D803	VHD1SS119//1E	J	1SS119	AA
D808	VHD1SS119//1E	J	1SS119	AA
D809	VHD1SS119//1E	J	1SS119	AA
D810	VHD1SS119//1E	J	1SS119	AA
D1001	RH-EX0294CEZZ	J	Zener Diode, 5.1V	AA
D1002	VHD1SS119//1E	J	1SS119	AA
D1003	RH-EX0333CEZZ	J	Zener Diode	AA
D1004	VHD1SS119//1E	J	1SS119	AA
D1005	RH-EX0301CEZZ	J	Zener Diode, 6.2V	AA
D1006	RH-EX0301CEZZ	J	Zener Diode, 6.2V	AA
D1007	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1008	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1009	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1010	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1016	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1017	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1018	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1019	RH-PX0291CEZZ	J	LED, Red/Green	AC
D1020	RH-PX0274CEZZ	J	LED	AC
D1044	VHD1SS119//1E	J	1SS119	AA
D1047	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1048	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1050	VHD1SS119//1E	J	1SS119	AA

PACKAGED CIRCUITS

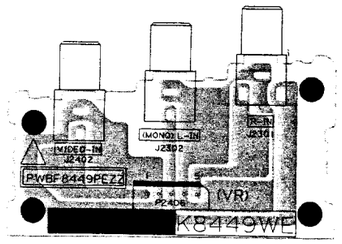
⚠ PR751	RMPTP0061CEZZ	J	Positive Coefficient Thermistor	AV
X801	RCRSB0008PEZZ	R	Crystal, 4.43MHz	AH
X802	RCRSB0009PEZZ	R	Crystal, 3.58MHz	AL

COILS AND TRANSFORMERS

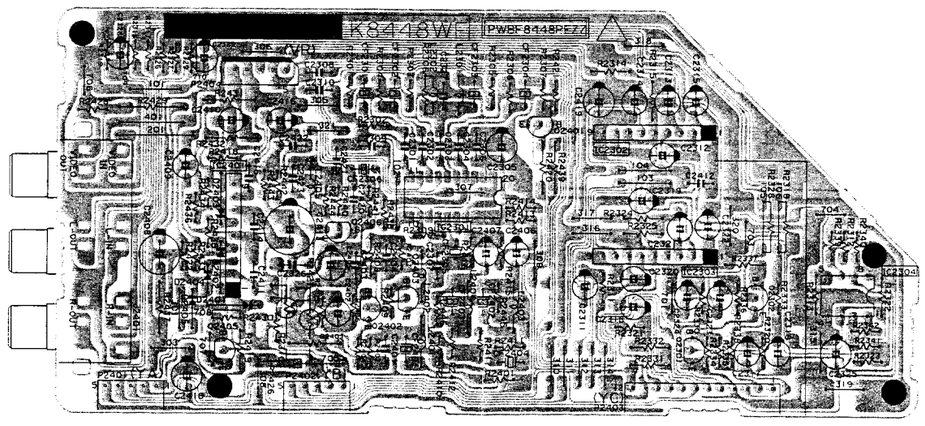
CF301	RFiLC0084CEZZ	J	Ceramic Filter, 6.0 MHz	AF
CF601	RFiLA0078CEZZ	R	Ceramic Filter, 500 kHz	AF
CF1001	RFiLC0091GEZZ	J	Ceramic Filter, 4.0 MHz	AD
L201	VP-XF1R2K0000	J	Coil, 1.2μH	AB
L203	VP-DF680K0000	J	Coil, 68μH	AB
L204	VP-DF120K0000	J	Coil, 12μH	AB
L205	VP-XF2R2K0000	J	Coil, 2.2μH	AB
L301	VP-DF101K0000	J	Coil, 100μH	AB
L601	VP-CF1R0M0000	J	Coil, 1μH	AB



PWB-B : Power Unit
电源电路装置



PWB-E : Front AV Unit
前面声象电路装置



PWB-D : AV Unit
声象电路装置

DESCRIPTION OF SCHEMATIC DIAGRAM

SAFETY NOTE:
1. DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACEING PARTS.
2. SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.

IMPORTANT SAFETY NOTICE:
PARTS MARKED WITH "⚠" (▒▒▒▒▒▒) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

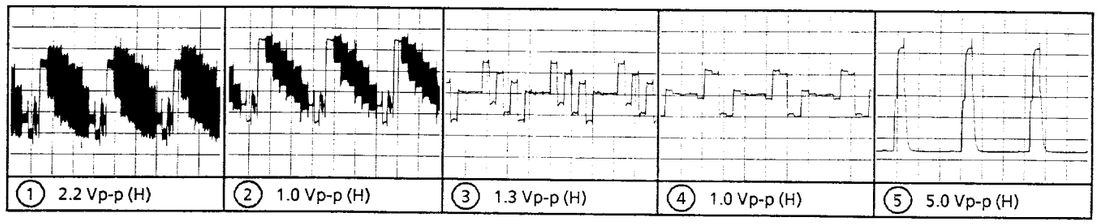
SERVICE PRECAUTION:
THE AREA ENCLOSED BY THIS LINE (▬ ▪ ▬) IS DIRECTLY CONNECTED WITH AC MAINS VOLTAGE.
WHEN SERVICING THE AREA, CONNECT AN ISOLATING TRANSFORMER
BETWEEN TV RECEIVER AND AC LINE TO ELIMINATE HAZARD OF ELECTRIC SHOCK.

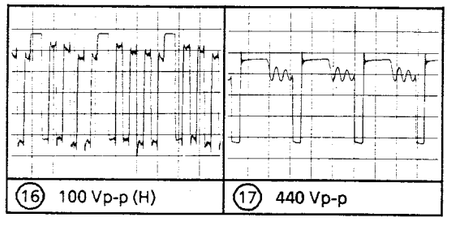
NOTE:
1. The unit of resistance "ohm" is omitted (K = 1000 ohms, M = Megaohm).
2. All resistors are 1/8 watt, unless otherwise noted.
3. All capacitors are μF, unless otherwise noted (P = μμF).

VOLTAGE MEASUREMENT CONDITIONS:
1. Voltages in parenthesis measured with no Signal.
2. Voltages without parenthesis measured with 3mV B & W or Colour-Signal.
3. All the voltages in each point are measured with VTVM.

WAVEFORM MEASUREMENT CONDITIONS:
1. Colour bar generator signal of 2.2 V peak to peak applied at pin (52) of IC801.
2. Approximately 4.0 V AGC bias.

WAVEFORMS
波形图





电路原理图的说明

安全注意事项：
1. 更换电路元件时，必须先拔出电源插头，切断电源。
2. 机芯底盘电路处工作状态时，应注意电路中半导体元件散热片高电位可能导致的电击危险。

安全使用注意要点：
标有"⚠"（▒▒▒▒▒▒）的元件为对保证本机长久的安全使用起重要的元件。更换这些元件时，必须使用规定的纯正正牌元件，以保证本机的使用安全以及使用寿命。

维修注意事项：
电路中由点划线（ ▬▪▬ ）所围部分为与交流电源直接相接线路。对这些部分的线路进行维修时，应于本机与交流电源之间用隔离变压器相接，以防止不意的电击之危险。

电路单位说明：
1. 电阻欧姆(Ω)单位予以略记(K=千欧姆，M=兆欧姆)。
2. 除特别说明者外，图中电阻功率均为1/8瓦特。
3. 除特别说明者(P=微微法拉)外，图中电容单位均为μF(微法拉)。

电压测定条件：
1. 括号中的电压值为无信号状态下所测。
2. 括号外的电压值为3mV黑白或彩色信号状态下所测。
3. 所有测点的电压值均为电子管电压计VTVM所测。

波形测定条件：
1. 施加2.2Vp-p的彩条发生器信号于IC801的销(52)处的基极。
2. 自动增益控制偏压约为4.0V。

PARTS LIST

PARTS REPLACEMENT

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3. PART NO.
4. DESCRIPTION
5. CODE
6. QUANTITY

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更换零件

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为了能迅速而确实地接受订货、以及正确无误地按时交货，在订货时请将下列各项明确告知。

1. 型号
2. 参考编号
3. 零件编号
4. 零件名称
5. 代号
6. 数量

MARK ★: SPARE PARTS-DELIVERY SECTION.

附★记号为备用部件的交货部门

Ref. No.	Part No.	★	Description	Code

PICTURE TUBE

⚠ V1	VB51JFC61X/*P	J	CRT, 51cm (21")	CK
⚠ DY1	RCiLH1576CEZZ	J	Deflection Yoke	BD
⚠ L751	RCiLG0046PEZZ	R	Degaussing (ADG) Coil	AQ
	LHLDW0003PEKZ	R	ADG Coil Holder, ×4 used	AB
	PMAGF3003CEZZ	J	Purity Magnet	AK
	PSPAG0003PEZZ	R	Wedge, Rubber, ×3 used	AD
	MSPRT0001PEFJ	R	CRT Spring	AC

—— End of PICTURE TUBE ——

PRINTED WIRING BOARD ASSEMBLIES
(*NOT REPLACEMENT ITEM*)

PWB-A	DUNTK8450WEV0	–	Main Unit	—
PWB-B	DUNTK8447WEV0	–	Power Unit	—
PWB-C	DUNTK8446WEV0	–	CRT Socket Unit	—
PWB-D	DUNTK8448WEV0	–	AV Unit	—
PWB-E	DUNTK8449WEV0	–	Front AV Unit	—

—— End of P.W.B. ASSEMBLIES ——

PWB-A DUNTK8450WEV0
MAIN UNIT

TUNER

NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.

⚠ TU201	VTUVTSH6HD04/	R	Tuner, VHF/UHF	BG

INTEGRATED CIRCUITS

IC301	VHiTDA7057Q-1	J	Sound Output	AV
IC302	VHiUPC1853C-1	J	Sound Control	AX
IC501	VHiLA7837//-1	J	Vertical Output	AH
IC601	VHiTA7808S/-1	J	8V Regulator	AD
IC602	VHiTA7809S/-1	J	9V Regulator	AE
IC801	VHiM52343SP-1	R	PIF/SIF/Video/Chroma/Def.	BD
IC802	VHiU3660M-B-1	R	1H-DL	AR
IC901	VHiM52325P/-1	R	SECAM	AV
IC1001	RH-iX2504CEZZ	R	Microprocessor	BA
IC1002	RH-iX2448CEN1	J	Memory	AN
IC1003	RH-iX0037CEZZ	J	Zener IC, 32V	AF
IC1004	VHiPST529C2-1	J	Reset IC	AD

TRANSISTORS

Q201	VS2SC1906//1E	J	2SC1906	AC
Q202	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q203	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q204	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q205	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q206	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q207	VS2SC945AP/-1	J	2SC945A(P)	AB
Q311	VS2SA715-C/-A	J	2SA715	AF

PWB-A DUNTK8450WEV0
MAIN UNIT (Continued)

Ref. No.	Part No.	★	Description	Code
TRANSISTORS(Continued)				
Q312	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q313	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q314	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q501	VS2SC945AP/-1	J	2SC945A(P)	AB
Q502	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q503	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q504	VS2SA1015Y/1E	J	2SA1015(Y)	AC
⚠ Q601	VS2SD2095//1E	J	2SD2095	AN
Q602	VS2SC2271E/-1	J	2SC2271(E)	AD
Q603	VS2SD880-G/-1	J	2SD880	AF
Q604	VS2SD880-G/-1	J	2SD880	AF
Q605	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q606	VS2SC945AP/-1	J	2SC945A(P)	AB
Q608	VS2SC945AP/-1	J	2SC945A(P)	AB
Q801	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q802	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q803	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q804	VS2SC945AP/-1	J	2SC945A(P)	AB
Q1001	VS2SC1815GW-1	J	2SC1815(GW)	AB
Q1002	VS2SC945AP/-1	J	2SC945A(P)	AB
Q1003	VS2SA1015Y/1E	J	2SA1015(Y)	AC
Q1004	VS2SC383-WT-1	J	2SC383(WT)	AE
Q1007	VS2SC945AP/-1	J	2SC945A(P)	AB
Q1008	VS2SC945AP/-1	J	2SC945A(P)	AB
Q1009	VS2SC3399//-1	J	2SC3399	AB
DIODES				
D201	VHD1SS152//-1	J	1SS152	AB
D202	VHD1SS152//-1	J	1SS152	AB
D205	VHD1SS119//1E	J	1SS119	AA
D206	VHD1SS119//1E	J	1SS119	AA
D207	VHD1SS119//1E	J	1SS119	AA
D301	VHD1SS119//1E	J	1SS119	AA
D302	VHD1SS119//1E	J	1SS119	AA
D303	VHD1SS119//1E	J	1SS119	AA
D501	RH-DX0127CEZZ	J		AC
D502	RH-DX0279CEZZ	J		AB
D503	VHD1SS119//1E	J	1SS119	AA
D602	RH-EX0310CEZZ	J	Zener Diode, 8.2V	AA
D603	VHD1SS119//1E	J	1SS119	AA
D604	VHD1SS119//1E	J	1SS119	AA
D605	VHD1SS119//1E	J	1SS119	AA
D608	VHD1SS119//1E	J	1SS119	AA
D609	RH-EX0294CEZZ	J	Zener Diode, 5.1V	AA
D610	VHD1SS119//1E	J	1SS119	AA
D611	VHD1SS119//1E	J	1SS119	AA
D612	RH-EX0320CEZZ	J	Zener Diode, 12V	AA
D614	RH-DX0073CEZZ	J		AD
D615	VHD1SS119//1E	J	1SS119	AA
D616	RH-DX0302CEZZ	J		AC

Ref. No.	Part No.	★	Description	Code
DIODES (Continued)				
D617	RH-DX0279CEZZ	J		AB
D618	VHD1SS119//1E	J	1SS119	AA
D624	VHD1SS119//1E	J	1SS119	AA
D626	VHD1SS119//1E	J	1SS119	AA
D627	VHD1SS119//1E	J	1SS119	AA
D628	VHD1SS119//1E	J	1SS119	AA
D629	VHD1SS119//1E	J	1SS119	AA
D630	RH-EX0309CEZZ	J	Zener Diode	AA
D801	VHD1SS119//1E	J	1SS119	AA
D802	VHD1SS119//1E	J	1SS119	AA
D803	VHD1SS119//1E	J	1SS119	AA
D808	VHD1SS119//1E	J	1SS119	AA
D809	VHD1SS119//1E	J	1SS119	AA
D810	VHD1SS119//1E	J	1SS119	AA
D1001	RH-EX0294CEZZ	J	Zener Diode, 5.1V	AA
D1002	VHD1SS119//1E	J	1SS119	AA
D1003	RH-EX0333CEZZ	J	Zener Diode	AA
D1004	VHD1SS119//1E	J	1SS119	AA
D1005	RH-EX0301CEZZ	J	Zener Diode, 6.2V	AA
D1006	RH-EX0301CEZZ	J	Zener Diode, 6.2V	AA
D1007	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1008	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1009	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1010	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1016	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1017	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1018	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1019	RH-PX0291CEZZ	J	LED, Red/Green	AC
D1020	RH-PX0274CEZZ	J	LED	AC
D1044	VHD1SS119//1E	J	1SS119	AA
D1047	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1048	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D1050	VHD1SS119//1E	J	1SS119	AA
PACKAGED CIRCUITS				
⚠ PR751	RMPTP0061CEZZ	J	Positive Coefficient Thermistor	AV
X801	RCRSB0008PEZZ	R	Crystal, 4.43MHz	AH
X802	RCRSB0009PEZZ	R	Crystal, 3.58MHz	AL
COILS AND TRANSFORMERS				
CF301	RFiLC0084CEZZ	J	Ceramic Filter, 6.0 MHz	AF
CF601	RFiLA0078CEZZ	R	Ceramic Filter, 500 kHz	AF
CF1001	RFiLC0091GEZZ	J	Ceramic Filter, 4.0 MHz	AD
L201	VP-XF1R2K0000	J	Coil, 1.2μH	AB
L203	VP-DF680K0000	J	Coil, 68μH	AB
L204	VP-DF120K0000	J	Coil, 12μH	AB
L205	VP-XF2R2K0000	J	Coil, 2.2μH	AB
L301	VP-DF101K0000	J	Coil, 100μH	AB
L601	VP-CF1R0M0000	J	Coil, 1μH	AB

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MAIN UNIT (Continued)

COILS AND TRANSFORMERS (Continued)

Ref. No.	Part No.	★	Description	Code
L602	RCiLZ0007PEZZ	R	Linearity Coil	AK
L603	RCiLP0008CEZZ	J	Peaking Coil	AG
L604	VP-CF3R3K0000	J	Coil, 3.3μH	AB
L605	VP-CF100K0000	J	Coil, 10μH	AB
L801	VP-DF390K0000	J	Coil, 39μH	AB
L802	VP-DF390K0000	J	Coil, 39μH	AB
L901	VP-XF8R2K0000	J	Coil, 8.2μH	AB
L1001	VP-XF120K0000	J	Coil, 12μH	AB
L1002	VP-XF120K0000	J	Coil, 12μH	AB
L1003	VP-DF120K0000	J	Coil, 12μH	AB
L1004	VP-DF120K0000	J	Coil, 12μH	AB
SF201	RFiLC0203CEZZ	J	Surface Accoustic Wave Filter	AN
T201	RCiLi0532CEZZ	J	IF Coil	AC
T202	RCiLD0229CEZZ	R	VCO Coil	AE
T203	RCiLi0457CEZZ	J	Adjacent S Trap Coil	AD
T204	RCiLi0483CEZZ	J	Adjacent P Trap Coil	AD
⚠T601	RTRNF0069PEZZ	R	Flyback Trans. (FBT)	BF
⚠T602	RTRNZ0026PEZZ	R	Horizontal Drive Trans.	AH
T1001	RCiLB0008PEZZ	R	OSD Adj. Coil	AG

CONTROLS

R523	RVR-M4620GEZZ	J	1k(B)	Vert. Linearity	AB
R527	RVR-M4631GEZZ	J	68k(B)	Vert. Size	AB

CAPACITORS

C201	VCEAGA1CW477M	J	470	16V	Electrolytic	AC
C202	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C203	VCQYTA1HM104K	J	0.1	50V	Mylar	AC
C204	VCEAGA1HW475M	J	4.7	50V	Electrolytic	AB
C205	VCEAGA1HW225M	J	2.2	50V	Electrolytic	AB
C206	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C207	VCEAGA1HW474M	J	0.47	50V	Electrolytic	AA
C208	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C209	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C210	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C211	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C212	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C213	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C214	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C215	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C216	VCEAGA0JW108M	J	1000	6.3V	Electrolytic	AC
C217	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C218	VCEAGA1HW224M	J	0.22	50V	Electrolytic	AA
C219	VCEAGA1HW474M	J	0.47	50V	Electrolytic	AA
C220	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C221	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C222	VCQYTA1HM104K	J	0.1	50V	Mylar	AC

CAPACITORS (Continued)

Ref. No.	Part No.	★	Description	Code
C223	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C224	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C225	VCCCPA1HH5R0C	J	5p 50V Ceramic	AA
C302	VCQYTA1HM103K	J	0.01 50V Mylar	AB
C304	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C306	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C307	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C308	VCEAGA1CW337M	J	330 16V Electrolytic	AC
C311	VCEAGA1EW477M	J	470 25V Electrolytic	AD
C312	VCQYTA1HM473K	J	0.047 50V Mylar	AB
C313	VCQYTA1HM473K	J	0.047 50V Mylar	AB
C314	VCEAGA1HW475M	J	4.7 50V Electrolytic	AB
C315	VCEAGA1HW475M	J	4.7 50V Electrolytic	AB
C316	VCEAGA1HW335M	J	3.3 50V Electrolytic	AB
C317	VCEAGA1HW335M	J	3.3 50V Electrolytic	AB
C318	VCEAGA1CW226M	J	22 16V Electrolytic	AB
C319	VCEAGA1CW226M	J	22 16V Electrolytic	AB
C320	VCEAGA1HW105M	J	1 50V Electrolytic	AC
C321	VCEAGA1HW105M	J	1 50V Electrolytic	AC
C322	VCKYPA1HB681K	J	680p 50V Ceramic	AA
C323	VCQYTA1HM823J	J	0.082 50V Mylar	AA
C324	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C325	VCKYPA1HB222K	J	2200p 50V Ceramic	AA
C326	VCQYTA1HM223K	J	0.022 50V Mylar	AB
C327	VCQYTA1HM223K	J	0.022 50V Mylar	AB
C328	VCKYPA1HB102K	J	1000p 50V Ceramic	AA
C329	VCKYPA1HB682K	J	6800p 50V Ceramic	AA
C330	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C331	VCKYPA1HB682K	J	6800p 50V Ceramic	AA
C332	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C333	VCEAGA1CW477M	J	470 16V Electrolytic	AC
C334	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C335	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C336	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C337	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C338	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C339	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C340	VCEAGA1EW108M	J	1000 25V Electrolytic	AD
C401	VCQYTA1HM104J	J	0.1 50V Mylar	AA
C402	VCEAGA1HW225M	J	2.2 50V Electrolytic	AB
C501	VCEAGA1VW477M	J	470 35V Electrolytic	AD
C502	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C503	VCEAGA1VW107M	J	100 35V Electrolytic	AC
C504	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C505	VCEAGA1EW108M	J	1000 25V Electrolytic	AD
C506	VCEAGA1HW225M	J	2.2 50V Electrolytic	AB
C507	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C508	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C509	VCCSPA1HL100J	J	10p 50V Ceramic	AA
C510	VCEAGA1HW107M	J	100 50V Electrolytic	AC
C511	VCEACA1HC105M	J	1 50V Electrolytic	AC
C512	VCQYTA1HM103K	J	0.01 50V Mylar	AB
C513	VCEAGA1CW477M	J	470 16V Electrolytic	AC
C514	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C515	VCEAGA1CW106M	J	10 16V Electrolytic	AA

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MAIN UNIT (Continued)

CAPACITORS (Continued)

Ref. No.	Part No.	★	Description	Code
C516	VCKYPA2HB561K	J	560p 500V Ceramic	AA
C601	VCEAGA1CW227M	J	220 16V Electrolytic	AC
C602	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C603	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C604	VCEAGA1HW105M	J	1 50V Electrolytic	AC
C605	VCQYTA1HM103K	J	0.01 50V Mylar	AB
C606	VCQYTA1HM223K	J	0.022 50V Mylar	AB
C607	VCEAGA1HW474M	J	0.47 50V Electrolytic	AA
C608	VCKYPA1HB182K	J	1800P 50V Ceramic	AA
C609	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C610	VCFYSB2EB823J	J	0.082 250V M. Polyester	AD
C611	VCFPPD3CA103J	J	0.01 1.6kV Polypro Film	AF
C612	RC-KZ0040CEZZ	J	820P 2kV Ceramic	AD
C613	VCQPSD2DA224J	J	0.22 200V Mylar	AD
C614	VCKYPA2HB221K	J	220p 500V Ceramic	AA
C615	VCFPPD2DB564J	J	0.56 200V Polypro Film	AF
C616	VCQPSC2DA104J	J	0.1 200V Mylar	AC
C617	VCEAGA1AW106M	J	10 100V Electrolytic	AC
C618	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C619	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C620	VCEAGA1EW477M	J	470 25V Electrolytic	AD
C621	VCEAGA1HW106M	J	10 50V Electrolytic	AC
C622	VCEAGA1CW227M	J	220 16V Electrolytic	AC
C623	VCEAGA1CW477M	J	470 16V Electrolytic	AC
C624	VCEAGA1CW477M	J	470 16V Electrolytic	AC
C625	VCEAGA1CW477M	J	470 16V Electrolytic	AC
C627	VCEAGA0JW108M	J	1000 6.3V Electrolytic	AC
C628	VCEAGA1AW477M	J	470 10V Electrolytic	AC
C630	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C631	VCEAGA1CW477M	J	470 16V Electrolytic	AC
C632	VCEAGA1EW477M	J	470 25V Electrolytic	AD
C633	VCEAGA1CW108M	J	1000 16V Electrolytic	AD
C634	VCQYTA1HM103K	J	0.01 50V Mylar	AB
C637	VCEAGA1CW476M	J	47 16V Electrolytic	AB
C638	VCFYFA1HA224J	J	0.22 50V M. Polyester	AB
C639	VCEAGA1CW106M	J	10 16V Electrolytic	AA
⚠ C751	RC-KZ0029CEZZ	J	0.01 250V Ceramic	AC
C801	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C802	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C803	VCEAGA1CW476M	J	47 16V Electrolytic	AB
C804	VCKYPA1HB102K	J	1000p 50V Ceramic	AA
C805	VCKYPA1HB102K	J	1000p 50V Ceramic	AA
C806	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C807	VCCCPA1HH8R0D	J	8p 50V Ceramic	AA
C808	VCEAGA1HW105M	J	1 50V Electrolytic	AC
C809	VCQYTA1HM153K	J	0.015 50V Mylar	AA
C810	VCCCPA1HH180J	J	18p 50V Ceramic	AA
C811	VCEAGA1HW105M	J	1 50V Electrolytic	AC
C812	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C813	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C814	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C815	VCEAGA1CW227M	J	220 16V Electrolytic	AC
C816	VCCSPA1HL470J	J	47P 50V Ceramic	AA
C817	VCCSPA1HL470J	J	47P 50V Ceramic	AA
C818	VCCSPA1HL470J	J	47P 50V Ceramic	AA
C819	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C820	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C821	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C822	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C823	VCFYHA1HA223J	J	0.022 50V M. Polyester	AB
C824	VCEAGA1CW476M	J	47 16V Electrolytic	AB
C825	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C826	VCCCPA1HH6R0D	J	6P 50V Ceramic	AA
C827	VCFYFA1HA104J	J	0.1 50V M. Polyester	AA
C901	VCEAGA1CW476M	J	47 16V Electrolytic	AB
C902	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C903	VCFYFA1HA474J	J	0.47 50V M. Polyester	AC
C904	VCFYFA1HA474J	J	0.47 50V M. Polyester	AC
C905	VCCCPA1HH121J	J	120p 50V Ceramic	AA
C906	VCCCPA1HH470J	J	47p 50V Ceramic	AA
C908	VCQYTA1HM104J	J	0.1 50V Mylar	AA
C1001	VCEAGA1EW477M	J	470 25V Electrolytic	AD
C1002	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C1003	VCEAGA0JW107M	J	100 6.3V Electrolytic	AB
C1004	VCEAGA1HW105M	J	1 50V Electrolytic	AC
C1005	VCEAGA0JW107M	J	100 6.3V Electrolytic	AB
C1006	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C1007	VCEAGA0JW107M	J	100 6.3V Electrolytic	AB
C1008	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C1009	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C1010	VCEAGA1HW335M	J	3.3 50V Electrolytic	AB
C1011	VCEAGA1CW226M	J	22 16V Electrolytic	AB
C1012	VCCSPA1HL330J	J	33p 50V Ceramic	AA
C1013	VCCSPA1HL330J	J	33p 50V Ceramic	AA
C1014	VCCSPA1HL330J	J	33p 50V Ceramic	AA
C1015	VCCSPA1HL330J	J	33p 50V Ceramic	AA
C1016	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C1017	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C1018	VCEAGA1HW106M	J	10 50V Electrolytic	AC
C1019	VCCCPA1HH101J	J	100p 50V Ceramic	AA
C1020	VCCCPA1HH101J	J	100p 50V Ceramic	AA
C1021	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C1022	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C1023	VCEAGA0JW107M	J	100 6.3V Electrolytic	AB
C1024	VCEAGA0JW107M	J	100 6.3V Electrolytic	AB
C1026	VCCCPA1HH470J	J	47p 50V Ceramic	AA
C1028	VCKYD41HB561K	J	560p 50V Ceramic	AA
C1029	VCKYPA1HB561K	J	560p 50V Ceramic	AA
C1030	VCCCPA1HH101J	J	100p 50V Ceramic	AA

RESISTORS

R202	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R203	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R204	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R205	VRD-RA2EE221J	J	220 1/4W Carbon	AA

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MAIN UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R206	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R207	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R208	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R209	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R210	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R211	VRD-RA2BE100J	J	10 1/8W Carbon	AA
R212	VRD-RA2BE151J	J	150 1/8W Carbon	AA
R213	VRD-RA2BE393J	J	39k 1/8W Carbon	AA
R214	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R215	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R216	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R217	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R218	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R219	VRD-RA2BE100J	J	10 1/8W Carbon	AA
R220	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R221	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R222	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R223	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R224	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R225	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R226	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R227	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R228	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R229	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R230	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R231	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R233	VRD-RA2BE224J	J	220k 1/8W Carbon	AA
R234	VRD-RA2BE224J	J	220k 1/8W Carbon	AA
R235	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R236	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R237	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R238	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R239	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R240	VRD-RA2BE151J	J	150 1/8W Carbon	AA
R303	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R307	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R311	VRN-VV3DB1R0J	J	1 2W Metal Film	AB
R312	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R313	VRD-RM2HD271J	J	270 1/2W Carbon	AA
R314	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R315	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R316	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R317	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R318	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R319	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R320	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R321	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R322	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R323	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R324	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R325	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R326	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R327	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R328	VRD-RA2BE824J	J	820k 1/8W Carbon	AA
R329	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R330	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R331	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R332	VRD-RA2BE101J	J	100 1/8W Carbon	AA
⚠ R333	RR-XZ0026CEZZ	J	10 1/4W Fuse Resistor	AB
R334	VRD-RM2HD220J	J	22 1/2W Carbon	AA
R335	VRD-RM2HD220J	J	22 1/2W Carbon	AA
R336	VRD-RM2HD271J	J	270 1/2W Carbon	AA
R337	VRD-RM2HD470J	J	47 1/2W Carbon	AA
R402	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R403	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R404	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R503	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R504	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R505	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R506	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R508	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R509	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R510	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R511	VRD-RA2EE684J	J	680k 1/4W Carbon	AA
R512	VRD-RM2HD331J	J	330 1/2W Carbon	AA
⚠ R513	RR-XZ0035TAZZ	J	22 1/4W Fuse Resistor	AB
R514	VRD-RM2HD102J	J	1k 1/2W Carbon	AA
R515	VRD-RM2HD102J	J	1k 1/2W Carbon	AA
R516	VRD-RM2HD102J	J	1k 1/2W Carbon	AA
R517	VRD-RA2BE393J	J	39k 1/8W Carbon	AA
R518	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R519	VRD-RM2HD222J	J	2.2k 1/2W Carbon	AA
R520	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R521	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R522	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R523	*See Controls*			
R524	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R525	VRD-RM2HD1R2J	J	1.2 1/2W Carbon	AA
R526	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R527	*See Controls*			
R528	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R529	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R530	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R531	VRD-RA2BE683J	J	68k 1/8W Carbon	AA
R532	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R533	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R534	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R535	VRD-RM2HD470J	J	47 1/2W Carbon	AA
R536	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R537	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R538	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R539	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
⚠ R540	RR-XZ0029CEZZ	J	3.3 1/2W Fuse Resistor	AB
R541	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R602	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R603	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R604	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA

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MAIN UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R605	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R606	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R607	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R608	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R609	VRD-RA2BE224J	J	220k 1/8W Carbon	AA
R610	VRW-KQ4AC120K	R	12 10W Cement	AE
⚠ R611	RR-XZ0020CEZZ	J	39 1/4W Fuse Resistor	AB
R612	VRD-RM2HD390J	J	39 1/2W Carbon	AA
R613	VRD-RM2HD222J	J	2.2k 1/2W Carbon	AA
R614	VRD-RM2HD223J	J	22k 1/2W Carbon	AA
R615	VRD-RM2HD562J	J	5.6k 1/2W Carbon	AA
R616	VRN-RV3DB1R8J	J	1.8 2W Metal Film	AB
R617	VRD-RA2EE101J	J	100 1/4W Carbon	AA
R618	VRD-RA2EE101J	J	100 1/4W Carbon	AA
R619	VRD-RM2HD184J	J	180k 1/2W Carbon	AA
R620	VRD-RA2EE562J	J	5.6k 1/4W Carbon	AA
⚠ R621	VRC-MA2HG562K	J	5.6k 1/2W Solid	AA
R622	VRS-PU2HB102J	J	1k 1/2W Metal Oxide	AA
R623	VRD-RA2BE183J	J	18k 1/8W Carbon	AA
R624	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R625	VRD-RA2EE125J	J	1.2M 1/4W Carbon	AA
R626	VRD-RA2BE224J	J	220k 1/8W Carbon	AA
R627	VRD-RA2BE823J	J	82k 1/8W Carbon	AA
R628	VRD-RA2BE684J	J	680k 1/8W Carbon	AA
R629	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R630	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R631	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R632	VRD-RM2HD472J	J	4.7k 1/2W Carbon	AA
R634	VRD-RM2HD3R3J	J	3.3 1/2W Carbon	AA
R636	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R637	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R640	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R641	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R646	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R647	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R648	VRD-RM2HD152J	J	1.5k 1/2W Carbon	AA
R653	VRD-RA2BE684J	J	680k 1/8W Carbon	AA
R654	VRS-SV3LB392J	J	3.9k 3W Metal Oxide	AC
R655	VRS-VV3DB153J	J	15k 2W Metal Oxide	AA
R663	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R664	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R665	VRD-RA2EE224J	J	220k 1/4W Carbon	AA
R668	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R669	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R670	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R671	VRD-RM2HD680J	J	68 1/2W Carbon	AA
R672	VRD-RM2HD680J	J	68 1/2W Carbon	AA
R673	VRD-RM2HD102J	J	1k 1/2W Carbon	AA
R674	VRS-VV3AB3R3J	J	3.3 1W Metal Oxide	AA
R676	VRD-RA2BE154J	J	150k 1/8W Carbon	AA
R677	VRD-RA2BE683J	J	68k 1/8W Carbon	AA
R678	VRD-RA2BE473J	J	47k 1/8W Carbon	AA

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R679	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R801	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R803	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R804	VRD-RA2BE391J	J	390 1/8W Carbon	AA
R805	VRD-RA2BE391J	J	390 1/8W Carbon	AA
R806	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R807	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R808	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R809	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R810	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R811	VRD-RA2BE391J	J	390 1/8W Carbon	AA
R812	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R813	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R814	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R815	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R816	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R817	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R818	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R819	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R820	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R821	VRD-RA2BE821J	J	820 1/8W Carbon	AA
R822	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R823	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R824	VRD-RA2EE105J	J	1M 1/4W Carbon	AA
R825	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R826	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R827	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R871	VRD-RA2EE334J	J	330k 1/4W Carbon	AA
R872	VRD-RA2EE185J	J	1.8M 1/4W Carbon	AA
R901	VRD-RA2BE122J	J	1.2k 1/8W Carbon	AA
R907	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R908	VRD-RA2BE122J	J	1.2k 1/8W Carbon	AA
R1003	VRD-RA2EE102J	J	1k 1/4W Carbon	AA
R1004	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R1005	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1006	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R1008	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1009	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R1010	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1011	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1012	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R1014	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1015	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1016	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1017	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R1018	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1019	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1020	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1021	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1024	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1025	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1026	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1027	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1028	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1029	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA

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MAIN UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R1030	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1031	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1032	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1033	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1034	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1035	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R1036	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R1037	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R1038	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R1039	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1040	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1041	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1042	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1044	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R1045	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R1046	VRD-RA2EE331J	J	330 1/4W Carbon	AA
R1047	VRD-RA2EE102J	J	1k 1/4W Carbon	AA
R1049	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1050	VRD-RA2EE331J	J	330 1/4W Carbon	AA
R1055	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1056	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R1057	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R1058	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R1059	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R1060	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R1061	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1062	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1064	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1066	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1067	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1069	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1071	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1072	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R1075	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R1078	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1079	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1080	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1081	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1082	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1083	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1084	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1085	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1086	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1087	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R1088	VRD-RA2BE822J	J	8.2k 1/8W Carbon	AA
R1089	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R1090	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R1091	VRD-RA2EE153J	J	15k 1/4W Carbon	AA
R1092	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R1093	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R1094	VRD-RA2BE684J	J	680k 1/8W Carbon	AA
R1096	VRD-RA2BE563J	J	56k 1/8W Carbon	AA

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R1097	VRS-SV3DB121J	R	120 2W Metal Oxide	AC

SWITCHES

Ref. No.	Part No.	★	Description	Code
S501	QSW-B0015CEZZ	J	Vertical Center Adj.	AC
⚠ S751	QSW-P0566CEZZ	J	Main's Power Sw.	AL
S1001	QSW-K0095CEZZ	J	Channel Up	AB
S1002	QSW-K0095CEZZ	J	Channel Down	AB
S1003	QSW-K0095CEZZ	J	Volume Up	AB
S1004	QSW-K0095CEZZ	J	Volume Down	AB
S1005	QSW-K0095CEZZ	J	Mode	AB
S1006	QSW-B0015CEZZ	J	Set-Up Mode Sw.	AC

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
CN601	QCNW-0430PEZZ	R	Connecting Wire, (P605)	AC
	QCNW-1685PEZZ	R	Connecting Wire, (L3)	AD
FB601	RBLN-0037CEZZ	J	Ferrite Bead	AB
P201	QPLGN0261CEZZ	J	Plug 2-pin, (TP201)	AB
P302	QPLGN0461CEZZ	J	Plug 4-pin, (S)	AB
P601	QPLGN0661CEZZ	J	Plug 6-pin, (XB)	AD
P602	QPLGN0461CEZZ	J	Plug 4-pin, (XA)	AB
P603	QPLGN0461CEZZ	J	Plug 4-pin, (H)	AB
P604	QPLGN0505CEZZ	J	Plug 5-pin, (F)	AB
P605	QPLGN0207CEZZ	J	Plug 2-pin, (H-SIZE)	AA
⚠ P751	QPLGN0404CEZZ	J	Plug 4-pin, (AA)	AB
⚠ P752	QPLGN0207CEZZ	J	Plug 2-pin, (G)	AA
P801	QPLGN0561CEZZ	J	Plug 5-pin, (K)	AB
P1001	QPLGN0461CEZZ	J	Plug 4-pin, (BC)	AB
RMC1001	RRMCU0210CEZZ	J	Remote Control Receiver	AK
	LHLDP1039PE00	R	LED Holder	AF

—— End of PWB-A ——

PWB-B DUNTK8447WEV0
POWER UNIT

INTEGRATED CIRCUIT

Ref. No.	Part No.	★	Description	Code
⚠ IC701	RH-iX1779CEZZ	J	Power Control	AR

TRANSISTOR

Ref. No.	Part No.	★	Description	Code
⚠ Q701	VS2SD1884//1E	J	2SD1884, Power	AP

DIODES

Ref. No.	Part No.	★	Description	Code
⚠ D701	RH-DX0055TAZZ	J		AD
⚠ D702	RH-DX0055TAZZ	J		AD
⚠ D703	RH-DX0055TAZZ	J		AD
⚠ D704	RH-DX0055TAZZ	J		AD
⚠ D705	RH-DX0164CEZZ	J		AC
⚠ D706	RH-DX0302CEZZ	J		AC
⚠ D707	RH-EX0639CEZZ	J	Zener Diode, 3.9V	AB
⚠ D708	RH-DX0027CEZZ	J		AE
⚠ D709	RH-DX0130CEZZ	J		AE
⚠ D710	RH-DX0130CEZZ	J		AE
⚠ D711	RH-DX0279CEZZ	J		AB
⚠ D712	RH-EX0019TAZZ	J	Zener Diode, 13V	AB
D715	RH-DX0388CEZZ	J		AE
D716	RH-DX0127CEZZ	J		AC
D717	RH-DX0127CEZZ	J		AC
D718	RH-DX0247CEZZ	J		AE
⚠ D719	VHD1SS119//1E	J	1SS119	AA
⚠ D720	RH-DX0279CEZZ	J		AB
⚠ D721	RH-EX0326CEZZ	J	Zener Diode, 15V	AA
⚠ VA701	RH-VX0033CEZZ	J	Varistor	AD

COILS

Ref. No.	Part No.	★	Description	Code
⚠ L701	RCiLF0154CEZZ	J	Line Filter	AQ
⚠ L702	RCiLF0007PEZZ	R	Line Filter	AL
⚠ L705	VP-CF3R3K0000	J	Coil, 3.3μH	AB
L707	VP-CF3R3K0000	J	Coil, 3.3μH	AB
L708	VP-CF3R3K0000	J	Coil, 3.3μH	AB
L709	VP-CF3R3K0000	J	Coil, 3.3μH	AB
L710	RCiLP0080CEZZ	J	Peaking Coil	AF
⚠ L711	VP-DF150K0000	J	Coil, 15μH	AB
⚠ T701	RTRNZ0037PEZZ	R	Power Regulator	AY

CONTROL

Ref. No.	Part No.	★	Description	Code
⚠ R725	RVR-M4324CEZZ	J	220(B) 115V Adj.	AC

CAPACITORS

Ref. No.	Part No.	★	Description	Code
⚠ C701	RC-FZ016SGEZZ	J	0.47 AC250V Special	AK
⚠ C702	RC-FZ008SGEZZ	J	0.1 AC250V Special	AD
⚠ C703	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C704	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C705	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C706	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C707	RC-EZ0191CEZZ	J	330 400V Electrolytic	AS
⚠ C708	VCQPSC2JA333K	J	0.033 630V Polypro Film	AB
⚠ C709	VCKYPH3DB561K	J	560p 2kV Ceramic	AC
⚠ C710	VCKYPA2HB152K	J	1500p 500V Ceramic	AA
⚠ C711	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C712	RC-KZ0024CEZZ	J	1000p 2kV Ceramic	AC
⚠ C713	VCEAGA1EW107M	J	100 25V Electrolytic	AD
⚠ C714	VCEAGA1EW477M	J	470 25V Electrolytic	AD
⚠ C715	VCFYHA1HA394J	J	0.39 50V M. Polyester	AC
⚠ C716	VCEAGA1EW337M	J	330 25V Electrolytic	AC
⚠ C717	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
⚠ C718	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
⚠ C719	VCEAGA1HW474M	J	0.47 50V Electrolytic	AA
⚠ C721	VCFYHA1HA684J	J	0.68 50V M. Polyester	AD
⚠ C723	RC-QZA471TAYJ	J	470p Mylar	AB
⚠ C725	VCEAGA1HW105M	J	1 50V Electrolytic	AC
⚠ C726	VCFYHA1HA393J	J	0.039 50V M. Polyester	AB
⚠ C727	VCFYHA1HA563J	J	0.056 50V M. Polyester	AB
C730	VCEAAH2CW107M	J	100 160V Electrolytic	AE
C731	VCEAAH2CW107M	J	100 160V Electrolytic	AE
C732	RC-KZ0024CEZZ	J	1000p 2kV Ceramic	AC
⚠ C733	VCEAGA1JW476M	J	47 63V Electrolytic	AB
C735	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C736	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C737	VCEAGA1EW477M	J	470 25V Electrolytic	AD
C738	VCEAGA1CW108M	J	1000 16V Electrolytic	AD
C739	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C740	VCEAGA1EW108M	J	1000 25V Electrolytic	AD
C741	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
⚠ C742	RC-KZ0155CEZZ	J	680p 4kV Ceramic	AE
⚠ C743	RC-KZ0155CEZZ	J	680p 4kV Ceramic	AE
⚠ C746	VCFYHA1HA394J	J	0.39 50V M. Polyester	AC

RESISTORS

Ref. No.	Part No.	★	Description	Code
⚠ R701	VRC-UA2HG395K	J	3.9M 1/2W Solid	AA
⚠ R702	VRC-UA2HG825K	J	8.2M 1/2W Solid	AA
⚠ R703	VRC-UA2HG825K	J	8.2M 1/2W Solid	AA
⚠ R704	VRW-KX4AC2R7K	J	2.7 10W Cement	AD
⚠ R705	VRW-KX3HC1R8K	J	1.8 5W Cement	AC
⚠ R706	VRS-SV3LB124J	J	120k 3W Metal Oxide	AC
⚠ R707	VRS-SV3LB272J	J	2.7k 3W Metal Oxide	AD
⚠ R708	VRD-RA2EE180J	J	18 1/4W Carbon	AA
⚠ R709	VRD-RA2EE221J	J	220 1/4W Carbon	AA
⚠ R710	VRN-VV3ABR22J	J	0.22 1W Metal Film	AA
⚠ R711	VRN-SV2HCR27J	J	0.27 1/2W Metal Film	AA
⚠ R712	VRD-RM2HD2R2J	J	2.2 1/2W Carbon	AA
⚠ R713	VRD-RM2HD2R2J	J	2.2 1/2W Carbon	AA

PWB-B DUNTK8447WEV0
POWER UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
⚠ R714	VRW-KX3NC123J	J	12k 7W Cement	AD
⚠ R716	VRN-VV3DB8R2J	J	8.2 2W Metal Film	AB
⚠ R717	VRD-RA2BE154J	J	150k 1/8W Carbon	AA
⚠ R720	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
⚠ R723	VRD-RA2BE470J	J	47 1/8W Carbon	AA
⚠ R724	VRD-RA2BE681J	J	680 1/8W Carbon	AA
⚠ R726	VRD-RA2BE183J	J	18k 1/8W Carbon	AA
⚠ R727	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
⚠ R737	RR-XZ0084CEZZ	J	1 1/4W Fuse Resistor	AB
⚠ R738	RR-XZ0084CEZZ	J	1 1/4W Fuse Resistor	AB
⚠ R739	VRN-VV3AB3R3J	J	3.3 1W Metal Film	AA
⚠ R740	VRD-RA2EE270J	J	27 1/4W Carbon	AA
⚠ R741	VRD-RM2HD470J	J	47 1/2W Carbon	AA
⚠ R745	VRD-RM2HD184J	J	180k 1/2W Carbon	AA
⚠ R746	VRD-RM2HD184J	J	180k 1/2W Carbon	AA

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
	QCNW-1680PEZZ	R	Connecting Wire, (XA)	AL
FB701	RBLN-0010CEZZ	J	Ferrite Bead	AC
FB702	RBLN-0037CEZZ	J	Ferrite Bead	AB
FH701	QFSHD1009CEZZ	J	Fuse Holder	AA
FH702	QFSHD1010CEZZ	J	Fuse Holder	AA
⚠ F701	QFS-C3224CEZZ	J	Fuse, T3.15A	AD
⚠ F702	QFS-J2521GEZZ	J	IC Protector	AE
P701	QPLGN0304CEZZ	J	Plug 3-pin, (A)	AB
P702	QPLGN0207CEZZ	J	Plug 2-pin, (AA)	AA
P703	QPLGN0207CEZZ	J	Plug 2-pin, (AB)	AA
P704	QPLGN0461CEZZ	J	Plug 4-pin, (XA)	AB
P705	QPLGN0461CEZZ	J	Plug 4-pin, (XB)	AB
P706	QPLGN0261CEZZ	J	Plug 2-pin, (XS)	AB

—— End of PWB-B ——

PWB-C DUNTK8446WEV0
CRT SOCKET UNIT

TRANSISTORS

Ref. No.	Part No.	★	Description	Code
Q851	VS2SC3417//1E	J	2SC3417, G-Output	AC
Q852	VS2SC3417//1E	J	2SC3417, B-Output	AC
Q853	VS2SC3417//1E	J	2SC3417, R-Output	AC
Q854	VS2SA1015Y/1E	J	2SA1015(Y), Constant Voltage	AC

DIODE

Ref. No.	Part No.	★	Description	Code
D851	VHD1SS119//1E	J	1SS119	AA

COIL

Ref. No.	Part No.	★	Description	Code
L851	VP-CF681K0000	J	680μH	AB

CAPACITORS

Ref. No.	Part No.	★	Description	Code
C851	VCKYD41HB331K	J	330p 50V Ceramic	AA
C852	VCKYD41HB331K	J	330p 50V Ceramic	AA
C853	VCKYD41HB391K	J	390p 50V Ceramic	AA
C854	VCEAGA1CW336M	J	33 16V Electrolytic	AB
C855	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C856	VCEAGA2DW106M	J	10 200V Electrolytic	AC
C857	RC-KZ0150CEZZ	J	1000p 3kV Ceramic	AB
C859	VCKYD41CY103N	J	0.01 50V Ceramic	AA
C861	VCEAGA1CW107M	J	100 16V Electrolytic	AB

RESISTORS

Ref. No.	Part No.	★	Description	Code
R851	VRD-RA2BE560J	J	56 1/8W Carbon	AA
R852	VRD-RA2BE560J	J	56 1/8W Carbon	AA
R853	VRD-RA2BE560J	J	56 1/8W Carbon	AA
R854	VRS-VV3DB123J	J	12k 2W Metal Oxide	AA
R855	VRS-VV3DB123J	J	12k 2W Metal Oxide	AA
R856	VRS-VV3DB123J	J	12k 2W Metal Oxide	AA
R857	VRD-RM2HD272J	J	2.7k 1/2W Carbon	AA
R858	VRD-RM2HD272J	J	2.7k 1/2W Carbon	AA
R859	VRD-RM2HD272J	J	2.7k 1/2W Carbon	AA
R860	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R861	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R862	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R863	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R864	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R865	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R866	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R867	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R868	VRD-RA2BE471J	J	470 1/8W Carbon	AA

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
	QCNW-1675PEZZ	R	Connecting Cord, (H)	AF
	QCNW-1676PEZZ	R	Connecting Cord, (K)	AG
P851	QPLGN0561CEZZ	J	Plug 5-pin, (K)	AB
P852	QPLGN0461CEZZ	J	Plug 4-pin, (H)	AB
⚠ SC851	QSOCV0927CEZZ	J	CRT Socet	AL

—— End of PWB-C ——

PWB-D DUNTK8448WEV0
AV UNIT (Continued)

INTEGRATED CIRCUITS

Ref. No.	Part No.	★	Description	Code
IC2301	VHiM52317SP-1	J	Sound Converter	AK
IC2302	VHiTA7348P/-1	J	Sound Select	AK
IC2303	VHiTA7348P/-1	J	Sound Select	AK
IC2304	VHiUPC358C/-1	J	Sound Amp.	AD
IC2401	VHiLA7956//-1	J	Video Select	AG

TRANSISTORS

Ref. No.	Part No.	★	Description	Code
Q2301	VS2SC945AP/-1	J	2SC945A(P), Sound Mute	AB
Q2302	VS2SC945AP/-1	J	2SC945A(P), Sound Mute	AB
Q2401	VS2SC945AP/-1	J	2SC945A(P), Video Amp.	AB
Q2402	VS2SC945AP/-1	J	2SC945A(P), Video Amp.	AB
Q2403	VS2SC945AP/-1	J	2SC945A(P), Video Amp.	AB
Q2406	VS2SC945AP/-1	J	2SC945A(P), SIF-Amp.	AB

DIODES

Ref. No.	Part No.	★	Description	Code
D2301	VHD1SS119//1E	J	1SS119	AA
D2401	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D2402	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D2403	RH-EX0325CEZZ	J	Zener Diode, 13V	AA
D2404	VHD1SS119//1E	J	1SS119	AA
D2405	VHD1SS119//1E	J	1SS119	AA

COILS

Ref. No.	Part No.	★	Description	Code
CF2301	RFiLC0258CEZZ	J	6.5 MHz Filter	AD
CF2302	RFiLC0270CEZZ	J	5.5 MHz Filter	AD
CF2304	RFiLC0267CEZZ	J	4.5 MHz Filter	AD
CF2305	RFiLA0072CEZZ	J	1 MHz Oscillator	AE
CF2306	RFiLC0268CEZZ	J	6.0 MHz Filter	AD
CF2401	RFiLC0150CEZZ	J	5.5/6.0 MHz Trap	AF
CF2402	RFiLC0024CEZZ	J	6.5 MHz Trap	AE
CF2403	RFiLC0013CEZZ	J	4.5 MHz Trap	AE
CF2404	RFiLC0228CEZZ	J	5.74 MHz Trap	AF
L2302	VP-DF6R8K0000	J	Coil, 6.8μH	AB
L2401	VP-DF6R8K0000	J	Coil, 6.8μH	AB
L2402	VP-DF150K0000	J	Coil, 15μH	AB
L2403	VP-DF100K0000	J	Coil, 10μH	AB
L2404	VP-DF120K0000	J	Coil, 12μH	AB
L2405	VP-DF150K0000	J	Coil, 15μH	AB

CAPACITORS

Ref. No.	Part No.	★				Code
C2301	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2302	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2303	VCCSPA1HL330J	J	33p	50V	Ceramic	AA
C2304	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA

CAPACITORS (Continued)

Ref. No.	Part No.	★				Code
C2305	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2306	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2307	VCCCPA1HH180J	J	18p	50V	Ceramic	AA
C2308	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2309	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2310	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2311	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C2312	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C2313	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2315	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2316	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2317	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C2318	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C2319	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C2320	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C2321	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2322	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2323	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2324	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C2325	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2326	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2328	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C2329	VCE9AA1CW106M	J	10	16V	Elect. (N.P)	AB
C2330	VCCSPA1HL330J	J	33p	50V	Ceramic	AA
C2401	VCCCPA1HH560J	J	56p	50V	Ceramic	AA
C2402	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C2403	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2404	VCCCPA1HH560J	J	56p	50V	Ceramic	AA
C2405	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2406	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2407	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2408	VCEAGA1AW477M	J	470	10V	Electrolytic	AC
C2409	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2410	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2411	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2412	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2413	VCEAGA1CW477M	J	470	16V	Electrolytic	AC
C2414	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2415	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2416	VCEAGA1HW225M	J	2.2	50V	Electrolytic	AB
C2418	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C2419	VCEAGA1AW477M	J	470	10V	Electrolytic	AC
C2420	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2421	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2422	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2423	VCCCPA1HH470J	J	47p	50V	Ceramic	AA

RESISTORS

Ref. No.	Part No.	★				Code
R2301	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R2302	VRD-RA2BE681J	J	680	1/8W	Carbon	AA
R2303	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R2304	VRD-RA2BE821J	J	820	1/8W	Carbon	AA

PWB-D DUNTK8448WEV0
AV UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R2305	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R2307	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2308	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R2309	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2310	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R2312	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2313	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R2314	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R2315	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R2316	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R2317	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R2318	VRD-RA2BE331J	J	330 1/8W Carbon	AA
R2319	VRD-RA2BE104J	J	100k 1/8W Carbon	AA
R2320	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2322	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2323	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R2324	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R2325	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R2326	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R2327	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R2328	VRD-RA2BE331J	J	330 1/8W Carbon	AA
R2329	VRD-RA2BE104J	J	100k 1/8W Carbon	AA
R2330	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2331	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2332	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2333	VRD-RA2BE331J	J	330 1/8W Carbon	AA
R2334	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2335	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2336	VRD-RA2BE331J	J	330 1/8W Carbon	AA
R2337	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2338	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2339	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R2340	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2341	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R2342	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2401	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R2402	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R2403	VRD-RA2EE391J	J	390 1/4W Carbon	AA
R2404	VRD-RA2BE331J	J	330 1/8W Carbon	AA
R2405	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R2406	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2407	VRD-RA2BE122J	J	1.2k 1/8W Carbon	AA
R2408	VRD-RA2BE122J	J	1.2k 1/8W Carbon	AA
R2409	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2410	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2411	VRD-RA2BE331J	J	330 1/8W Carbon	AA
R2412	VRD-RA2BE271J	J	270 1/8W Carbon	AA
R2413	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R2414	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R2415	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R2416	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R2417	VRD-RA2BE330J	J	33 1/8W Carbon	AA
R2418	VRD-RA2BE564J	J	560k 1/8W Carbon	AA
R2419	VRD-RA2BE100J	J	10 1/8W Carbon	AA
R2420	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2421	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R2422	VRD-RA2BE104J	J	100k 1/8W Carbon	AA
⚠ R2426	RR-XZ0026CEZZ	J	10 1/4W Fuse Resistor	AB
⚠ R2427	RR-XZ0026CEZZ	J	10 1/4W Fuse Resistor	AB
R2428	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2429	VRD-RA2EE750J	J	75 1/4W Carbon	AA
R2431	VRD-RA2EE750J	J	75 1/4W Carbon	AA
R2432	VRD-RA2EE750J	J	75 1/4W Carbon	AA
R2433	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2434	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2435	VRD-RA2BE564J	J	560k 1/8W Carbon	AA
R2436	VRD-RA2BE564J	J	560k 1/8W Carbon	AA
R2438	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R2439	VRD-RA2EE101J	J	100 1/4W Carbon	AA
R2440	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2441	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R2442	VRD-RA2BE100J	J	10 1/8W Carbon	AA
R2443	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R2444	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R2445	VRD-RA2BE182J	J	1.8k 1/8W Carbon	AA
R2446	VRD-RA2BE182J	J	1.8k 1/8W Carbon	AA

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
⚠ J2401	QTANJ0633CEZZ	J	AV Terminal	AM
P2401	QPLGZ0507GEZZ	J	Plug 5-pin, (YA)	AB
P2402	QPLGZ0507GEZZ	J	Plug 5-pin, (YB)	AB
P2403	QPLGZ1207GEZZ	J	Plug 12-pin, (YC)	AD
P2404	QPLGN0561CEZZ	J	Plug 5-pin, (VR)	AB

—— End of PWB-D ——

Ref. No.	Part No.	★	Description	Code

PWB-E DUNTK8449WEV0
FRONT AV UNIT

MISCELLANEOUS PARTS

CN2401	QCNW-1682PEZZ	R	Connecting Wire, (VR)	AL
⚠ J2301	QJAKE0143CEZZ	J	Jack, AV-2 Right	AG
⚠ J2302	QJAKE0145CEZZ	J	Jack, AV-2 Left (Mono)	AF
⚠ J2402	QJAKE0144CEZZ	J	Jack, AV-2 Video	AF
P2406	QPLGN0561CEZZ	J	Plug 5-pin, (VR)	AB

—— End of PWB-E ——

MISCELLANEOUS PARTS

MISCELLANEOUS PARTS

CN301	QCNW-1677PEZZ	R	Connecting Wire, (S)	AL
	QCNW-1678PEZZ	R	Connecting Wire, (AA)	AL
	VSP0010PBQ7WA	J	Speaker, ×2 used	AU
⚠ ACC701	CACCZ3006PE01	R	AC Cord Ass'y	AN

—— End of MISCELLANEOUS PARTS ——

Ref. No.	Part No.	★	Description	Code

SUPPLIED ACCESSORIES

ACCESSORIES

QPLGA0011CEZZ	J	AC Plug Adaptor	AF
RRMCG1085PESA	R	Remote Control Unit	AW
TINS-5422PEZZ	–	Operation Manual	—

ACCESSORIES (*NOT REPLACEMENT ITEM*)

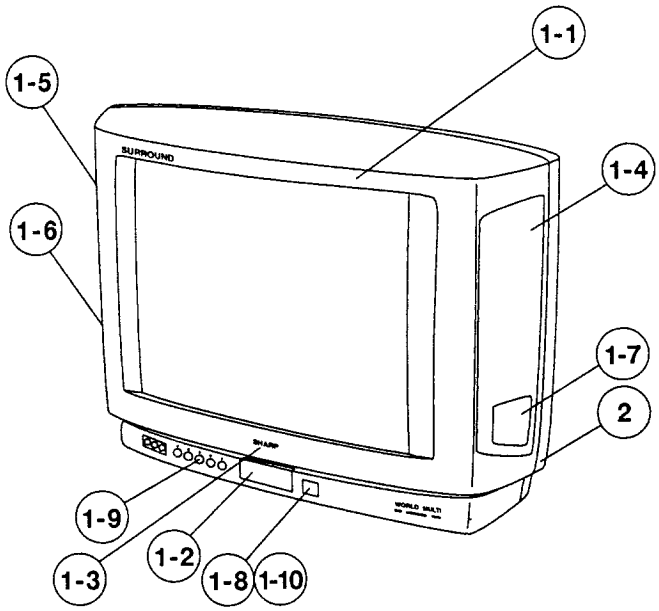
TCADS3001PEZZ	–	SS List	—
TMAPC3915PEZZ	–	Service Map	—
UBATU0023GEZZ	–	Dry Batteries, Size AAA (2 pcs)	—

—— End of SUPPLIED ACCESSORIES ——

PACKING PARTS

SPAKC5892PEZZ	–	Packing Case	—
SPAKP0094PEZZ	–	Polystyrene Mat	—
SPAKX2509PEZZ	–	Buffer Material	—

—— End of PACKING PARTS ——



CABINET PARTS

Ref. No.	Part No.	★	Description	Code
1	CCABA2241WEV0	R	Cabinet Ass'y, Front	BH
1-1	*Not Available*	–	Cabinet, Front	—
1-2	GMADT0140PESA	R	Window	AH
1-3	HBDGB0015PESA	R	Badge, "SHARP"	AE
1-4	*Not Available*	–	Speaker Decoration, Right	—
1-5	*Not Available*	–	Speaker Decoration, Left	—
1-6	*Not Available*	–	Speaker Port, (Left)	—
1-7	*Not Available*	–	Speaker Port, (Right)	—
1-8	JBTN-0145PESA	R	Button, Power	AG
1-9	JBTN-0146PESA	R	Button, Channel/Volume	AG
1-10	MSPRC0068CEFW	J	Spring, Power Button	AA
2	CCABB2208WEV0	R	Cabinet Ass'y, Rear	BF

—— End of CABINET PARTS ——

21FN1

SHARP

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